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ABSTRACT

Explained and illustrated is the formula funding system used for colleges and universities in Texas. This system is considerably more complicated than the formulas used in other states. Data for institutions in the state system for fiscal 1978 are presented; actual appropriations are used rather than requests, and formula-produced amounts are compared with expenditures. Recent changes in the formula system are discussed, such as decreased dependence on information from other states and regions. Specific areas of formula use examined are: general administration and student services and general institutional expense; faculty salaries; departmental operating expense; instructional administration; library; organized research; physical plant general services; building maintenance; custodial services; grounds maintenance; campus security; community service and continuing education; and special requests. (MSE)

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Letter of Transmittal

Commissioner Kenneth Ashworth
Coordinating Board
Texas College and University System
Austin, Texas

Dear Commissioner Ashworth:

The Texas Formula System is submitted with the hope that it will be of service to the various formula-study committees of the Coordinating Board and to the Legislature.

A few words of explanation are in order:

All proposals have been translated into figures corresponding to the 1977-78 fiscal year as this is the last year for which relatively complete information is available. Projections of the figures can be used to bring them to any desired year by using known rates used by the Legislature

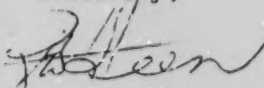
In some instances modifications are proposed for existing formulas and in a few instances substitute formulas are proposed. Two new formulas are included in the list of proposals. All figures used in calculating 1978 expenditures are based on the formulas as modified by the Legislature.

All changes and modifications are presented as proposals for consideration by Coordinating Board committees and I understand fully that formulas are determined by the Coordinating Board and the amount available for higher education is determined by the Legislature.

Information continues to be sought concerning costs in a few areas and one or two brief supplemental reports will be presented in the next several weeks.

I wish to express my thanks to you and members of your staff for generous cooperation. This cooperation has not extended to advice and no one associated with your organization has attempted to influence the report. Consequently, you are free to use the material as information and to accept or reject as you see fit.

Sincerely,



R. W. Steen
Director, Formula Studies

THE TEXAS FORMULA SYSTEM

**A Study Prepared for the Coordinating Board,
Texas College and University System by**

RALPH W. STEEN

**with the assistance of Robert Fox, Joe Wisnoski
and Carolyn Jordan**

**Coordinating Board, Texas College and University System
Austin, Texas • March, 1979**

A WORD OF THANKS

In addition to Commissioner Kenneth Ashworth and Deputy Commissioner Bill Webb, so many people have assisted in this study that it is not possible to call their names. Suffice it to say that thanks are extended for generous assistance to many members of the staff of the Coordinating Board, to various individuals on the staff of the Legislative Budget Board and the Legislative Reference Library, to dozens of administrators of Texas universities, to the higher education agencies in more than twenty states who shared information about their programs and procedures, to several officers of the Southern Regional Education Board and the National Center for Education Statistics, and to numerous individuals and agencies who have written books and articles and gathered volumes of statistics on the many problems of university finance.

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TEXAS PUBLIC SENIOR COLLEGES AND UNIVERSITIES
AND ABBREVIATIONS

<u>Institution</u>	<u>Abbreviation</u>
East Texas State University.....	ET
East Texas State University at Texarkana.....	ETT
Lamar State University.....	LAM
Midwestern State University.....	MID
North Texas State University.....	NTSU
Pan American State University.....	PAN
Stephen F. Austin State University.....	SFA
Texas A&M University System	
Prairie View A&M University.....	PV
Tarleton State University.....	TAR
Texas A&M University.....	A&M
Texas Eastern University.....	TE
Texas Southern University.....	TSU
Texas State University System	
Angelo State University.....	ASU
Sam Houston State University.....	SH
Southwest Texas State University.....	SWT
Sul Ross State University.....	SR
Texas Tech University.....	TECH
Texas Woman's University.....	TWU
The University of Texas System	
The University of Texas at Arlington.....	UTAR
The University of Texas at Austin.....	UT
The University of Texas at Dallas.....	UTD
The University of Texas at El Paso.....	UTEP
The University of Texas of the Permian Basin.....	UTPB
The University of Texas at San Antonio.....	UTSA
University of Houston System	
University of Houston Central Campus.....	UH
University of Houston at Clear Lake.....	UHCL
University of Houston Downtown College.....	UHD
University of Houston Center at Victoria.....	UHV
University System of South Texas	
Corpus Christi State University.....	CC
Laredo State University.....	LS
Texas A&I University.....	A&I
West Texas State University.....	WT

THE TEXAS FORMULA SYSTEM

Texas was a pioneer in the development of formula funding for colleges and universities. Over a period of more than two decades numerous approaches have been tried and many able people have worked to improve existing formulas and to develop new ones. During this same period both institutional administrators and legislators have come to accept certain policies as traditional with the result that major changes should be proposed with care.

Essential information concerning the development of the Texas formulas will be found in W. J. Thomas, An Economic Analysis of the Formula System of Financing Public Higher Education in Texas (Austin, Coordinating Board, 1970); Coordinating Board, Policy Paper 9: Designation of Formulas (Austin, 1970); and Texas Research League, Higher Education Finance: How Much Is Enough? (Austin, 1977).

Consequently, the history of the system will not be repeated here. It should be pointed out, however, that the Texas system is considerably more complicated than those in most states which use formulas. The complication is not without merit, as the Texas system provides formulas in eleven areas which relate directly to the costs of operating colleges and universities. In most of the states studied, the procedure is to determine faculty salaries and then finance most other areas as percentages of faculty salaries. These systems are satisfactory in the states which use them, but they vary so greatly from the formulas to which Texans are accustomed that a proposal to change to such a system would be difficult to justify.

One of the charges leveled at the Texas formula system by its critics has been that it depended heavily on information concerning other states and regions. One reason for this dependence on regional and national figures was that information concerning Texas institutions was limited. The development of a management information system by the Coordinating Board is a major step in improving this situation. This system can supply specific information concerning student faculty ratios and costs per credit hour by program and by level, as well as other facts concerning academic programs. The management information system was used for the first time to provide information dealing with the fall semester, 1976. The information concerning the fall semester, 1977 is perhaps more nearly accurate than that for fall, 1976, and is the basis for practically all statements in this study concerning student/faculty ratios and instructional costs. The data for fiscal 1978 (fall semester, 1977) is deemed essential to this study because this year is the latest for which information is available and because the upper level institutions, as well as The University of Texas at San Antonio and the Downtown Campus of The University of Houston were using the formula systems for the first time.

Throughout this study, formula produced amounts (i.e. appropriations) will be compared with expenditures. These comparisons are made for the purpose of determining the degree to which the formulas are meeting the needs of the institutions, or conversely to determine the degree to which the institutions are able to operate effectively within the formula produced amounts. The comparisons should in no sense be taken to mean that the formulas should be guides for the preparation of budgets. From their

inception, and this applies to all states, formulas have been looked upon as a means for determining institutional requests for legislative appropriations in order that the funds made available for colleges and universities may be equitably distributed. There are numerous reasons why the formulas would be unsatisfactory guides for budget preparation, the most important of which is that the base year on which appropriations are determined is different to the year in which the money is spent. About half of the states use formulas in preparing legislative requests, but in most of them the money goes to the institution as a lump sum. The restrictions placed in the appropriations bill by the Texas Legislature are not looked upon by Texas institutions as a major handicap and few individuals find fault with them.

Legislators, university personnel and the public have been concerned by the escalating costs of higher education in recent years. Increasing cost is a national problem resulting in large measure from increasing enrollment, inflation and rapidly increasing charges for utilities. The problem in Texas has been compounded by the creation during the last decade of a number of new institutions, most of which have remained low-enrollment, high-cost institutions. The University of Texas at San Antonio, The University of Texas at Dallas, The University of Houston at Clear Lake, The University of Houston Downtown, and Corpus Christi State University have gained enough enrollment for efficient operation, but it would seem that Texas Eastern University, The University of Texas of the Permian Basin, The University of Houston at Victoria, East Texas State University of Texarkana, and Laredo State University, as well as others, face serious enrollment problems. In most cases, educational

and general buildings at these institutions are being paid for out of general revenue and this has influenced the increased general revenue appropriations for higher education. It should be obvious that a building paid for out of general revenue does not cost the public any more than a building paid for out of a special fund but the expenditure is much more visible.

For purposes of information, tables have been prepared comparing the amounts of money several institutions received under the Texas formulas with the amounts they would receive under the formulas of Arkansas, Georgia, Kentucky and Maryland. All of these states are members of the Southern Regional Education Board and, with the possible exception of Maryland, none can be described as a high-cost state. The tables were prepared by individuals who visited the states involved and are familiar with their formula systems. They are not, however, familiar with the traditions involved and the figures for the other states should probably be considered approximations. These tables will be found on pages 6 to 10.

In the remaining pages of this study, the various formula areas will be considered in the order in which the items appear in the appropriations bill. In all instances where formulas are used for Texas, they are the formulas as modified by the Legislature and not as proposed by the Coordinating Board.

On the assumption that studies of this nature will be made from time to time, it is suggested that certain changes be made in the reporting systems used by the institutions. For example, the requests for appropriations are prepared by program area but expenditures are reported on the

basis of institutional organization. Mathematics is included in the Liberal Arts program area but in many institutions is located with the sciences and is reported as representing a science expenditure. Institutions are organized in many different ways but are able to report expenditures by a program area basis. The present reporting system is practically worthless as a tool to determine expenditures by program area.

It would greatly simplify the problem of comparing teaching costs with those of other states if Texas were to adopt HEGIS Code classifications for courses. This would cause some problems during a transition period but would ultimately be of value. The adoption of HEGIS Code classifications would also help solve the problem of multiple classifications. This is not a major problem in Texas but does lead to some inequities. For example, computer science is classified as liberal arts, as business administration and as engineering. An institution using the engineering classification receives far more money for Faculty Salaries and for Departmental Operating Expense than a school which has the liberal arts classification.

Finally, there will undoubtedly come a time, possibly soon, when it will become necessary to establish separate formulas for lower-level and upper-level undergraduate courses. Before this step is taken, a rigid classification of courses into lower-level and upper-level categories must be made.

Moody College and the Pan American Center at Brownsville are not included in any of the tables because both were in a stage of transition in 1978 and statistics concerning them would have little value.

1979 ARKANSAS FORMULA COMPARISONS
ADJUSTED FOR ENROLLMENT CHANGES FROM 1977 TO 1979

	<u>UT-Austin</u>	<u>Tech</u>	<u>NTSU</u>	<u>SFA</u>	<u>Angelo</u>	<u>Sul Ross</u>
<u>Salaries</u>						
Ark.	48,666,983	21,961,196	18,980,660	10,861,346	4,256,650	2,742,095
Tex.	48,089,419	21,577,741	18,581,391	9,250,213	3,743,926	2,020,544
Ark./Tex.	101.20%	101.78%	102.15%	117.42%	113.69%	135.71%
<u>D.O.E. & I.A.*</u>						
Ark.	16,963,544	7,803,490	6,414,713	3,811,328	1,560,694	960,434
Tex.	14,428,232	5,869,939	4,524,640	2,126,509	779,670	546,832
Ark./Tex.	117.57%	132.94%	141.77%	179.23%	200.17%	175.64%
<u>Library</u>						
Ark.	6,534,053	2,936,752	2,509,355	1,465,932	576,075	383,828
Tex.	5,310,312	2,437,190	1,966,680	1,019,119	450,000(min.)	450,000(min)
Ark./Tex.	123.04%	120.50%	127.59%	143.84%	128.02%	85.30%
<u>Institutional Support</u>						
Ark.	5,668,506	3,594,732	2,930,120	2,426,373	1,548,913	786,654
Tex.	8,440,444	3,520,954	2,558,016	1,668,610	898,402	607,936
Ark./Tex.	67.16%	102.10%	114.55%	145.41%	172.41%	129.40%
<u>Physical Plant</u>						
Ark.	17,344,123	6,997,861	4,797,082	2,397,238	1,153,144	634,433
Tex.	28,883,727	9,828,783	5,417,754	3,136,857	1,572,431	1,267,333
Ark./Tex.	60.05%	71.20%	88.54%	76.42%	73.34%	50.06%
<u>Total</u>						
Ark.	95,177,209	43,294,031	35,631,930	20,962,217	9,095,476	5,507,444
Tex.	105,152,134	43,234,607	33,048,481	17,201,308	7,444,429	4,892,645
Ark./Tex.	90.51%	99.93%	107.82%	121.86%	122.18%	112.57%

* I.A. = Instructional Administration D.O.E.=Departmental Operating Expense

1979 GEORGIA FORMULA COMPARISONS
ADJUSTED (1979 ESTIMATED SCH'S USED)

	<u>UT-Austin</u>	<u>Tech</u>	<u>NTSU</u>	<u>SFA</u>	<u>Angelo</u>	<u>Sul Ross</u>
<u>Instruction, Research, D.O.E. & I.A.*</u>						
Geo.	62,236,526	27,623,274	25,217,415	15,621,416	5,504,549	3,885,678
Tex.	64,123,803	27,824,788	23,502,997	11,423,105	4,535,603	2,584,886
Geo./Tex.	97.06%	99.28%	107.29%	136.75%	121.36%	150.32%
<u>Administration, General, & S.S.*</u>						
Geo.	11,980,531	5,317,480	4,854,352	3,007,123	1,059,626	747,993
Tex.	8,440,444	3,520,954	2,558,016	1,668,610	898,402	607,936
Geo./Tex.	141.94%	151.02%	189.77%	130.22%	117.95%	123.04%
<u>Plant & Utilities</u>						
Geo.	21,786,994	8,314,518	5,623,632	2,516,439	1,209,406	794,462
Tex.	28,883,727	9,828,783	5,417,754	3,136,857	1,572,431	1,267,333
Geo./Tex.	75.43%	84.59%	103.80%	80.22%	76.91%	62.69%
<u>Library</u>						
Geo.	5,601,287	2,486,095	2,269,567	1,405,927	495,409	349,711
Tex.	5,310,312	2,437,190	1,966,680	1,019,119	450,000(min.)	450,000(min.)
Geo./Tex.	105.47%	102.01%	115.40%	137.96%	110.09%	77.71%
<u>Total</u>						
Geo.	101,605,338	43,741,367	37,964,966	22,550,905	8,268,990	5,777,844
Tex.	106,758,286	43,611,715	33,445,447	17,247,691	7,456,436	4,910,155
Geo./Tex.	95.17%	100.30%	113.51%	130.75%	110.90%	117.67%

* I.A = Instructional Administration S.S. = Student Services
D.O.E. = Departmental Operating Expense

FY 1978 KENTUCKY FORMULA

	<u>UT-Austin</u>	<u>Tech</u>	<u>NTSU</u>	<u>SFA</u>	<u>Angelo</u>	<u>Sul Ross</u>
<u>F.S., Benefits,</u>						
<u>Voc. T.T., Ext. P.S.*</u>						
K.	64,186,615	24,517,209	21,581,931	11,175,676	4,035,369	2,978,963
Tex.	48,359,474	21,612,886	18,205,254	9,067,345	3,783,587	2,015,309
K./Tex.	132.73%	113.44%	118.55%	123.25%	106.65%	147.82%
<u>D.O.E., I.A.*</u>						
<u>Organized Activities</u>						
K.	15,353,004	6,586,389	5,555,064	2,481,151	918,195	510,912
Tex.	14,131,687	6,153,159	4,611,739	2,229,398	826,799	554,655
K./Tex.	108.64%	107.04%	120.45%	111.29%	111.05%	92.11%
<u>Organized Research</u>						
K.	2,805,455	447,373	349,130	60,751	10,424	14,167
Tex.	3,212,305	754,216	793,933	92,767	24,015	35,020
K./Tex.	87.33%	59.32%	43.97%	65.49%	43.41%	40.45%
<u>Library</u>						
K.	7,837,041	3,603,825	2,945,924	1,900,034	626,242	333,246
Tex.	5,218,235	2,395,145	1,940,921	1,018,203	450,000	450,000
K./Tex.	150.19%	150.46%	151.78%	186.61%	139.16%	74.05%
<u>G.A.S.S. & G.I.E.*</u>						
K.	10,673,524	5,933,348	4,731,631	3,256,824	1,705,945	1,042,402
Tex.	8,290,483	3,439,695	2,495,799	1,630,112	875,152	590,625
K./Tex.	128.74%	174.24%	189.58%	199.79%	194.93%	176.49%

* F.S. = Faculty Salaries Voc.T.T. = Vocational Teacher Training Ext. P.S. = Extension Public Service
D.O.E. = Dpartemental Operating Expense I.A. = Instructional Administration
G.A.S.S. = General Administration & Student Services G.I.E. = General Institutional Expense

KENTUCKY FORMULA (Cont.)

	<u>UT-Austin</u>	<u>Tech</u>	<u>NTSU</u>	<u>SFA</u>	<u>Angelo</u>	<u>Sul Ross</u>
<u>Custodial & Building Maintenance</u>						
K.	11,094,193	4,223,217	2,856,428	1,342,633	614,297	403,534
Tex.	9,284,286	3,173,178	2,132,049	1,133,971	511,737	344,438
K./Tex.	119.49%	133.09%	133.98%	118.40%	120.04%	117.16%
<u>Grounds</u>						
K.	638,543	628,444	256,206	172,848	193,473	102,919
Tex.	925,638	618,913	326,986	278,093	184,958	148,047
K./Tex.	68.98%	101.54%	78.35%	62.15%	104.60%	69.52%
<u>P.P.G.S.,*</u>						
<u>Campus Security</u>						
K.	-	-	-	-	-	-
Tex.	3,724,189	1,086,507	895,505	427,301	248,284	278,045
K./Tex.	-	-	-	-	-	-
<u>Total</u>						
K.	112,588,375	45,999,805	38,276,314	20,389,917	8,103,945	5,386,143
Tex.	93,146,297	39,233,699	31,402,186	15,877,190	6,904,532	4,416,139
K./Tex.	120.87%	117.25%	121.89%	128.42%	117.37%	121.96%

* P.P.G.S. = Physical Plant General Services

FY 1979 MARYLAND FORMULA/GUIDELINE COMPARISONS

	<u>UT-Austin</u>	<u>Tech</u>	<u>NTSU</u>	<u>SFA</u>	<u>Angelo</u>	<u>Sul Ross</u>
<u>FS., D.O.E., & I.A.*</u>						
M.	69,580,223	33,843,996	21,609,722	17,275,868	6,089,585	3,831,973
Tex.	64,120,030	28,321,146	23,472,656	11,629,392	4,680,242	2,619,596
M./Tex.	108.52%	119.50%	92.06%	148.55%	130.11%	146.28%
<u>G.A., S.S. & G.I.E.*</u>						
M.	14,868,186	7,754,245	5,520,287	3,925,795	1,880,735	1,218,745
Tex.	8,440,444	3,520,954	2,558,016	1,684,876	759,524	607,938
M./Tex.	176.15%	220.23%	215.80%	233.00%	247.62%	200.47%
<u>Public Safety</u>						
M.	2,322,133	1,249,557	937,195	591,739	261,581	121,919
Tex.	1,523,784	234,808	340,220	86,644	102,284	73,194
M./Tex.	151.89%	532.16%	275.47%	682.95%	255.74%	166.57%
<u>Library</u>						
M.	7,305,275	3,651,086	3,011,882	1,845,382	877,172	674,261
Tex.	5,310,312	2,437,190	1,966,680	1,019,119	450,000	450,000
M./Tex.	137.57%	149.81%	153.15%	181.08%	194.93%	149.94%
<u>Physical Plant & Operation</u>						
M.	26,270,809	10,025,665	6,780,989	3,034,329	1,458,305	957,964
Tex.	25,020,939	9,593,975	5,077,534	3,050,213	1,470,147	1,194,139
M./Tex.	105.00%	104.50%	133.55%	99.48%	99.19%	80.22%
<u>Total</u>						
M.	120,346,626	56,524,549	37,860,075	26,673,113	10,567,378	6,804,862
Tex.	104,420,509	44,108,073	33,415,106	17,470,244	7,462,197	4,944,867
M./Tex.	115.25%	128.15%	113.30%	152.68%	141.61%	137.61%

* F.S.= Faculty Salaries D.O.E. = Departmental Operating Expense I.A. = Instructional Administration
 G.A.= General Administration S.S.= Student Services G.I.E.= General Institutional Expense

GENERAL ADMINISTRATION AND STUDENT SERVICES
AND GENERAL INSTITUTIONAL EXPENSE

General Administration and Student Services, and General Institutional Expense are two formula areas which are closely related. The definitions for the two formulas seem to be specific enough, yet there are many gray areas. Items which are charged to one formula in a particular institution may well be charged to the other formula in a second institution. The relationship between the two areas is emphasized by the fact that in seventeen of the eighteen formula systems studied the two are combined.

University administrators uniformly agree that the General Administration and Student Services formula does not provide adequate funding. This area probably more than any other has experienced the impact of federal regulations and the requirement for federal reports. These regulations and reports have required the establishment of several offices and call for the work of numerous clerks and the use of much computer time in every institution. This expense item is one which can be supplemented only by 7½ percent of sponsored research. The research supplementation covers the excess expenditures of most of the institutions which overspend the appropriations. Tables on pages 18 and 19 show the difference between appropriations and expenditures for the Texas institutions for 1977 and 1978. In the preparation of the tables, appropriations figures were taken from the appropriations bills and expenditure figures were taken from the Requests for Legislative Appropriations submitted by the institutions.

One difficulty with this formula lies in the fact that it has

never been fully funded. The formula calls for a dollar amount per head-count enrollment plus $7\frac{1}{2}$ percent of sponsored research during the base year plus .01 (total appropriation - appropriation for General Administration and Student Services). The legislature has never seen fit to fund the one percent portion of the formula.

The only state studied which used a definition for General Administration and Student Services comparable to the Texas definition is Alabama. However, the definitions are not identical and the Alabama Legislature does not adhere rigidly to the formula. The Alabama formula makes no use of sponsored research or total appropriation but is driven by a dollar amount per head count. The dollar amounts used in Texas and Alabama for 1978 compare in this manner:

Institutions of 4,000 or fewer students

	<u>Texas</u>	<u>Alabama</u>
First 1,000	\$300,000(base)	\$300,000(base)
Next 1,500	116.21	150.96
Next 1,500	80.03	103.98

Institutions with 4,000 or more students

	<u>Texas</u>	<u>Alabama</u>
First 4,000	148.59	170.60
Next 4,000	110.85	127.26
Over 8,000	99.87	114.66

The $7\frac{1}{2}$ percent addition for sponsored research would mean very little to institutions with fewer than 4,000 students.

The one percent item in the Texas formula can easily be offset by a slight increase in the dollar amount per head count. The formula would then read:

Institutions with less than 4,000 head-count enrollment

First 1,000	\$325,000(base)
Next 1,500	127.83
Next 1,500	83.45

Institutions with more than 4,000 head-count enrollment

First 4,000	\$160.48
Next 4,000	128.59
Over 8,000	119.84

These rates combined with the 7½ percent of sponsored research will produce amounts which closely approximate the amounts produced by the existing formula.

The Texas formula for General Institutional Expense is unique in that the rate increases with enrollment. Administrators of the larger institutions consider this a good policy but those at smaller institutions question its logic. The rates for 1978 were:

Semester Credit Hours

First	200,000	\$.97
Next	200,000	1.09
Next	200,000	1.20
Over	600,000	1.32

Leaving aside the question of logic, General Institutional Expense is consistently overspent. The combined over expenditure for the four-year institutions was \$2,499,881 in 1977 and \$3,058,242 in 1978. There were only three institutions which did not overspend in either 1977 or 1978 and most overspent in both years. For information on individual institutions, see the tables on pages 20 and 21.

There seems to be little excuse for a formula rate which increases with the size of the institution. For this reason it is proposed that

the formula committees of the Coordinating Board consider the substitution of a flat rate of \$1.09 per credit hour if it is decided to keep General Institutional Expense as a separate formula item.

The National Association of College and University Business Officers suggests that expenses under the headings of General Administration, Student Services and General Institutional expense be combined under the heading of Institutional Support and most states which use formulas follow this suggestion. In Texas, the amount for Institutional Support would be the amount for General Administration and Student Services plus the amount for General Institutional Expense. Other states use other methods, at least some of which deserve mention.

Arkansas combines General Administration and Student Services with General Institutional Expense and funds them on a semester credit hour basis as follows:

First 25,000	\$14.80(minimum \$290,125)
Next 75,000	10.55
Next 100,000	9.87
Next 200,000	4.29

This formula produces more than the combined Texas formulas for small institutions but less than the Texas formulas for large institutions.

Kentucky combines General Administration and Student Services with General Institutional Expense and uses the following formulas:

Institutions with less than 4,000 head-count enrollment

First 1,000	\$685,000(base)
Next 1,500	301.86
Next 1,500	207.91

Institutions with more than 4,000 head-count enrollment

First 4,000	\$362.76
Next 4,000	270.60
Over 8,000	243.81

The Kentucky rates produce in excess of 50 percent more than the Texas rates.

Maryland combines General Administration and Student Services with General Institutional Expense and uses a complicated formula based on total instructional cost and full-time equivalent students which produces about twice as much money as the Texas formulas produce.

The statements of Texas administrators, the experiences of Texas colleges and universities and the formulas used in other states all indicate that the Texas formulas in these areas produce less money than is really needed.

The Texas rates for General Administration and Student Services, and General Institutional Expense can be combined into one rate for Institutional Support. This combination would provide a less complicated formula and would avoid the use of the word "administration." This formula for 1978 would have been:

Head-Count Enrollment

First 1,000	\$435,000
Next 3,000	110.40
Over 4,000	150.91

plus 7½ percent of sponsored research

In following the suggestion of the National Association of College and University Business Officers in combining General Administration and

Student Services, and General Institutional Expense into a single formula area named Institutional Support the Coordinating Board would be taking a logical step and increasing the rate would be a reasonable step.

Proposal:

That the Texas formulas for General Administration and Student Services, and General Institutional Expense be combined into one formula for Institutional Support. The dollar amounts would be increased to replace the one percent portion which has never been funded and General Institutional Expense would be funded at a flat rate of \$1.09 per credit hour. If this proposal had been followed in 1978, the combined formula would have been:

Head-Count Enrollment

First 1,000	\$435,000
Next 3,000	110.40
Over 4,000	150.91

plus 7½ percent of sponsored research

LOUISIANA FORMULA

Salary Base (Faculty Salaries + Benefits) = (SCH* by Program Level) X (Faculty Salaries + Benefits).

Other Instructional Costs (Departmental Operating Expense + Instructional Administration + Research + Organized Activities + Extension Public Service) = 51.52 percent Salary Base.

	<u>Percent Salary Base</u>	<u>Percent Education and General Expenditures</u>
Salary Base	100.00	45
Other Instructional Cost	51.52	23
Library	11.14	5
GA/SS + GIE *	33.42	15
Physical Plant	<u>26.74</u>	<u>12</u>
	222.82%	100%

* General Administration and Student Services = GA/SS
General Institutional Expense = GIE
Semester Credit Hour = SCH

GENERAL ADMINISTRATION, STUDENT SERVICES
APPROPRIATIONS MINUS EXPENDITURES

<u>Institution (4-year)</u>	<u>1977</u>	<u>1978</u>
ASU	\$13,108	\$22,227
ET	46,059	34,461
LAM	(13,481)	138,309
MID	42,783	34,637
NTSU	(441,653)	(279,196)
PAN	(154,111)	(54,544)
SH	(39,582)	16,200
SWT	24,408	8,208
SFA	48,727	699
SR	4,321	92,737
PV	(93,855)	(82,310)
TAR	(969)	32,356
A&M	(542,760)	(252,255)
TS	(72,385)	(89,551)
TECH	(19,773)	(41,626)
TWU	(49,267)	(19,414)
UTAR	(5,078)	(6,165)
UT	(1,649,858)	(947,922)
UTEP	7,252	165,314
UTSA	N.A.	(326,733)
UH	(212,712)	(570,948)
UHD	N.A.	78,269
A&I	(153,458)	(57,694)
WT	(12,372)	(6,152)
	<u>(3,274,656)</u>	<u>(2,111,093)</u>

GENERAL ADMINISTRATION, STUDENT SERVICES
APPROPRIATIONS MINUS EXPENDITURES

<u>Institution (upper-level)</u>	<u>1978</u>
ETT	\$24,233
TE	(97,217)
UTD	(20,061)
UTPB	(25,669)
UHCL	(13,562)
UHV	66,001
CC	(25,241)
LS	<u>18,889</u>
Total	(72,627)

GENERAL INSTITUTIONAL EXPENSE
APPROPRIATIONS MINUS EXPENDITURES

<u>Institution (4-year)</u>	<u>1977</u>	<u>1978</u>
ASU	\$ (2,893)	\$ 13,945
ET	(144,731)	(41,080)
LAM	70,146	(3,311)
MID	(31,982)	(52,723)
NTSU	(126,725)	(135,286)
PAN	(24,572)	75,299
SH	5,373	2,765
SWT	60,268	(10,282)
SFA	173,117	147,858
SR	(4,707)	4,809
PV	(36,466)	(17,882)
TAR	(40,827)	(36,097)
A&M	(211,514)	(60,516)
TS	9,851	(52,513)
TECH	(15,808)	47,788
TWU	(139,767)	(170,663)
UTAR	(13,541)	(35,893)
UT	(985,471)	(1,161,277)
UTEP	14,557	74,847
UTSA	N.A.	(97,214)
UH	(935,939)	(1,180,775)
UHD	N.A.	(102,058)
A&I	31,678	(110,797)
WT	<u>(149,928)</u>	<u>(157,186)</u>
	(2,499,881)	(3,058,242)

GENERAL INSTITUTIONAL EXPENSE
APPROPRIATIONS MINUS EXPENDITURES

<u>Institution (upper-level)</u>	<u>1978</u>
ETI	\$ 10,093
TE	(20,752)
UTD	(144,581)
UTPB	7,649
UHCL	(59,302)
UHV	22,118
CC	(82,944)
LS	<u>17,918</u>
Total	(249,801)

FACULTY SALARIES

With rare exceptions, the item for Faculty Salaries is the largest in the appropriation for a university. In their original form, the formulas for Faculty Salaries were greatly influenced by salary levels in other states as there was little information concerning statewide salary levels in Texas. Through the years experience has led to the modification of the formula ratios and to the development of formulas in new areas. At present Texas has formulas for nineteen program areas and in most of the areas there are three levels of funding. In eight program areas, there are four levels of funding because of special formulas for the upper-level institutions. Information is now available on costs per credit hour by program area and by level.

Just a few years ago Faculty Salaries in Texas were above the national averages but in 1978 they were about equal to the national averages. It should be added that in 1979 the fringe benefits in Texas were greatly improved as the state began making most of the OASI payments for its employees. Comparisons between average salaries in Texas and those in some other states will be found on pages 29 to 31. Except for averages clearly marked as being prepared by the Coordinating Board, the averages were prepared by the National Center for Education Statistics.

Even though average salaries in Texas are close to national averages the amount spent per student is generally less. This results from the fact that in most program areas Texas evidently uses a higher student/faculty ratio. Unfortunately, there are no national averages available and where state averages are available comparison is difficult. The difficulty arises because most states use HEGIS (Higher Education General

Information) Codes in preparing their statistics while Texas uses its own classification system. In some of the high-enrollment programs (e.g. liberal arts, science, business administration), Texas actually uses a higher faculty/student ratio than is called for by the formulas. For information concerning student/faculty ratios, see the tables on pages 32 to 34.

The Faculty Salary formula in a given program area is in theory determined by dividing an agreed-upon salary by the number of credit hours needed for a FTE student and then by the student/faculty ratio. In 1978, the agreed upon salary for undergraduate liberal arts was \$15,746. This amount divided by $30 \times 24 = \$21.87$. In fact \$21.87 was arrived at by increasing a formula which was agreed upon years ago by a percentage amount each year until it reached \$21.87 in 1978 and produced a salary of \$15,746. The chief weakness in the procedure lies in the fact that there are no dependable average salaries by program area. The NCES and the Coordinating Board publish lists of average salaries by rank but not by program area.

Individual groups, such as organizations of engineers or musicians, make surveys limited to their own areas and occasionally some organization or institution will conduct a limited survey of salaries by program area. One of the best recent surveys was that conducted by Oklahoma State University in 1978. This survey was limited to members of the National Association of State Universities and Land Grant Colleges and a summary of results will be found on pages 35 and 36.

The Coordinating Board is now able to provide extensive information on costs per credit hour by program, by level and by institution in Texas.

The tables on pages 37 to 40 compare the formulas with statewide average costs by program and level in Texas. The tables on pages 41 to 57 compare the formulas and statewide average costs with the costs by institution in selected program areas. It becomes obvious that in some program areas and levels the costs have little relationship to the formulas. It is also obvious that the costs vary greatly from institution to institution. This situation is to be expected as the formulas are supposed to represent costs which approach average.

As the Faculty Salary formulas are now constructed, there are two variables: the student/faculty ratio and the salary. This calls for an attempt to agree upon average salaries for program areas and levels. Since there is no satisfactory source for average salaries by program area, it would seem wise to use one average salary for each level of instruction and let the student/faculty ratio serve as the only variable. It is not a rule, but for years the Texas formulas have produced salaries near the average for assistant professors for undergraduate programs, while formulas for masters level programs produce salaries near the associate professor average, and those for doctoral level programs produce salaries comparable to the average for professors (See Policy Paper 9, page 55).

The table on page 58 shows for each undergraduate program area the formula student/faculty ratio, the actual ratio, the formula and the average cost. The next columns show revised ratios and formulas which result in the same salaries. The final two columns in the table show the revised ratios applied to the average assistant professor salary of \$16,170 to produce a formula which is probably more closely related to reality. The table on page 59 provides the same information and modifica-

tions for masters level programs using the associate professor average salary of \$19,762. The table on page 60 provides the same information and modifications for doctoral level programs using \$25,312, the average salary of a professor. In modifying the student/faculty ratios in the tables, ratios for two years as well as those in some other states were considered. However, when the actual ratio differed greatly from the formula ratio, the proposed ratio makes only a part of the needed correction. Complete correction can be accomplished over a period of years. However, the 24/1 ratios which remain for liberal arts and business administration, and the 23/1 ratio for science should doubtless be reduced when possible. The 10/1 student/faculty ratio in the formula for pharmacy was established only two years ago and no proposal for change is made at this time. The formula for law was established only two years ago and no change is proposed. The formula for law exceeds expenditures in three of the schools but Texas Southern University spends more per credit hour than is appropriated. This condition is due primarily to the small enrollment in this school and will doubtless continue for several years. The legislature has recognized the problem by funding a clinical program and providing additional funds for the law library. This special consideration seems merited and it is recommended that it be continued until there has been a substantial increase in enrollment. Information concerning ratios and formulas for law, optometry and veterinary medicine is presented on pages 32 and 40.

Recommendations concerning optometry and veterinary medicine are difficult since each is a highly specialized program and a small change in the number of students, especially in the graduate programs, will have

a substantial effect on the student/faculty ratio. Since each program is offered in only one institution, there is no question of equitable distribution of funds and good arguments can be made for their removal from the formula system. This would be permit financing on the basis of justification.

If the formulas as proposed had been in effect in 1978, the appropriation for teaching salaries would have been increased by \$10,400,000 or 3.56 percent. However, its effect would not have been uniform and several institutions would have received less money.

The upper-level institutions constitute a particular problem as they do not have freshman and sophomore students to use as a base in building the faculty needed to teach specialized courses at the junior and senior levels. The problem is compounded by the fact that most of the institutions are marked by low enrollments and it is probable that some of them will suffer this handicap for years. The alternatives are to offer stringently limited programs or to operate with low student/faculty ratios which make finance a problem. Formulas were used for the upper level institutions for the first time in the 1977-1978 academic year, and the only valid information concerning their cost of operation is based on that one year.

The table on page 61 presents information concerning existing formulas, costs and proposed formulas for the upper-level universities. The table on page 62 presents information concerning costs for the upper level courses in the four-year institutions.

It is doubtful that the upper-level institutions with fewer than

1,500 FTE students can offer courses of satisfactory quality without seriously restricting the areas in which credit is offered. These institutions are benefited by minimum appropriations in several formula areas and they clearly need assistance in the area of teaching salaries. It is recommended that the formula-produced amounts for teaching salaries be increased by 15 percent for each institution with fewer than 1,500 FTE students.

The table on page 40 does not propose any change in the formulas for Optometry. The reason is that the School of Optometry at the University of Houston is instituting major changes in its curriculum and actual cost figures for the new curriculum are not available. The institution is convinced that the present formulas will not nearly cover the costs of operation, but costs for fall, 1977 indicate that, at least for the Professional Program, the formula-produced amount greatly exceeds the costs. Information not now available can be provided the Faculty Salary Formula Committee in 1980 and a decision reached at that time.

One problem new to Texas institutions, but one which may become more serious, is that of declining enrollment. The loss of several hundred students has an impressive effect on the appropriation but surprisingly little on the cost of operation. A university can compensate in time for loss of enrollment but it is difficult to do so in a period of one or two years. Many states have faced this problem and have generally aided the institutions by not penalizing them for the entire loss at one time. The institution which is losing enrollment is charged with only a portion of the semester credit hour loss and thus gains time to use attrition as a means of solving some of the problems. There is no uniformity in the proce-

dure but 50 percent of the loss would seem a reasonable figure. This consideration would hardly be necessary when the loss is only one or two percent.

	1977 - 78	
<u>AVERAGE SALARIES - 1977 -78</u>	<u>TEXAS AVERAGE SALARIES</u>	
<u>PUBLIC INSTITUTIONS - FROM NCES</u>	<u>FROM COORDINATING BOARD</u>	

	<u>Universities</u>	<u>Other 4-year</u>	<u>All 4-year Institutions</u>
<u>Professors</u>			
U.S.	26,323	24,187	25,312
Texas	26,799	23,135	
<u>Associate Professors</u>			
U.S.	19,498	18,985	19,792
Texas	20,128	19,225	
<u>Assistant Professors</u>			
U.S.	15,817	15,675	16,170
Texas	16,456	15,796	
<u>Instructors</u>			
U.S.	12,445	12,672	12,741
Texas	13,588	12,626	

NCES AVERAGE FACULTY SALARIES, 9-MONTH CONTRACT, IN SREB STATES, 1978

<u>State</u>	<u>Professor</u>	<u>Assoc. Professor</u>	<u>Asst. Professor</u>	<u>Instructor</u>	<u>Average of All Ranks</u>
Texas	\$25,190	\$19,662	\$16,075	\$12,782	\$18,822
Alabama	23,588	18,896	15,451	12,584	17,367
Arkansas	21,559	17,128	14,500	11,847	16,151
Florida	23,927	18,160	15,332	12,973	18,813
Georgia	23,196	18,082	14,884	11,944	17,202
Kentucky	23,270	18,231	15,150	12,365	17,681
Louisiana	21,945	18,069	15,320	12,425	16,960
Maryland	26,021	20,274	16,176	13,028	19,130
Mississippi	22,267	17,698	14,848	11,454	16,503
N. Carolina	24,715	18,503	15,413	12,850	18,042
S. Carolina	23,577	18,662	14,872	11,938	17,173
Tennessee	23,488	18,340	15,160	12,163	17,994
Virginia	25,440	19,301	15,325	11,224	18,228
W. Virginia	21,126	17,105	14,392	13,877	16,575
SREB Average	24,035	18,644	15,393	12,394	17,919

NCES AVERAGE FACULTY SALARIES, 9-MONTH CONTRACT,
BY RANK IN SELECTED STATES, 1978

<u>State</u>	<u>Professor</u>	<u>Assoc. Professor</u>	<u>Asst. Professor</u>	<u>Instructor</u>	<u>Average of All Ranks</u>
U.S.	\$25,192	\$18,661	\$15,728	\$12,617	\$18,999
California	27,327	20,312	16,702	14,434	22,498
Illinois	25,696	19,257	15,666	12,066	19,465
Ohio	23,503	18,350	15,019	12,732	18,422
New York*	26,333	19,765	15,489	12,384	20,010
Colorado	23,931	18,468	15,327	12,695	19,014
New Mexico	24,423	18,889	15,479	12,766	19,033
Oklahoma	22,079	18,536	15,737	12,758	17,439
Texas	25,190	19,662	16,075	12,782	18,822

* New York does not include the CUNY System

STATEWIDE STUDENT/FACULTY RATIO

FORMULA 1978, FALL 1976 ACTUAL AND FALL 1977 ACTUAL

	<u>Undergraduate</u>			<u>Masters</u>			<u>Doctoral</u>		
	F	'76	'77	F	'76	'77	F	'76	'77
Liberal Arts	24	25	25	13	9	9	6	7	6
Science	23	26	25	8	7	7	5	6	6
Fine Arts	12	12	14	8	5	6	4	6	6
Teacher Education	24	19	19	15	14	14	7	10	9
Practice Teaching	11	9	9						
Agriculture	17	24	20	9	9	8	5	11	9
Engineering	15	17	18	8	8	8	5	6	7
Home Economics	17	20	17	11	8	8	6	13	10
Social Service	17	14	18	8	12	13	6	9	9
Library Science	21	18	16	11	12	12	6	9	11
Vocational	20	19	19						
Physical Training	22	18	19						
Nursing	8	10	9	7	10	9	5	12	7
Pharmacy	10	21	17	8	3	4	4	7	5
Business Administration	24	28	30	13	16	18	5	7	6
Technology	15	19	19	8	15	8			

Special Professional

	F	'76	'77
Law	24	30	28
Optometry	10	9	12
Veterinary Medicine	6	7	7

UNDERGRADUATE STUDENT/FACULTY RATIOS IN SELECTED PROGRAMS
(1978)

	Texas Formula		Texas Actual		New Mexico		Colorado		Michigan		Virginia		South Carolina	
	L*	U*	L	U	L	U	L	U	L	U	L	U	L	U
SOCIAL SCIENCE	24	24	28	17	27	20	35	20	34	20	20	13	19	19
BIOLOGICAL SCIENCE	23	23	30	15	23	17	25	15	28	18	20	13	22	22
PHYSICAL SCIENCE	23	23	30	15	20	13	24	12	23	15	20	13	22	22
FINE ARTS	12	12	14	10	20	13	15	10	21	10	16	11	14	14
EDUCATION	24	24	22	18	23	20	22	22	23	21	20	13	23	23
ENGINEERING	15	15	22	16	20	13	19	13	19	14	16	11	16	16
NURSING	8	8	10	9	20	13	17	12	12	12	10	8	7	7
BUSINESS	24	24	34	27	23	20	26	22	34	27	20	13	22	22
AGRICULTURE	17	17	25	17	23	18	24	15	34	24	16	11	20	20
MATHEMATICS	24	24	28	17	23	13	25	12	24	14	20	13	22	22
FOREIGN LANGUAGES	24	24	28	17	20	13	19	10	20	8	16	11	19	19

* L = Lower U = Upper

GRADUATE STUDENT/FACULTY RATIOS IN SELECTED PROGRAMS
(1978)

	Texas Formula		Texas Actual		New Mexico		Colorado		Michigan		Virginia		South Carolina	
	GI	GII	GI	GII	GI	GII	GI	GII	GI	GII	GI	GII	GI	GII
SOCIAL SCIENCE	13	6	9	6			10	6	10	6	10	8	11	5
BIOLOGICAL SCIENCE	8	5	7	6	8	6	8	6	7	4	10	8	9	7
PHYSICAL SCIENCE	8	5	7	6	6	6	8	6	6	4	10	8	9	7
FINE ARTS	8	4	6	6	6	6	8	7	7	9	10	8	8	
EDUCATION	15	7	14	9	8	6	12	10	23	12	10	8	13	8
ENGINEERING	8	5	8	7	6	6	8	7	8	5	10	8	9	6
NURSING	7	5	9	7	6		9	7	7	4	10	8	7	
BUSINESS	13	5	18	6	13	13	12	10	20	9	10	8	15	8
AGRICULTURE	9	5	8	9	6	6	8	6	13	8	10	8	11	5
MATHEMATICS	13	6	9	6	6	6	8	6	8	5	10	8	9	7
LAW	24		28		17		14		28		20		26	

OKLAHOMA STATE UNIVERSITY 1977-78
FACULTY SALARY SURVEY

<u>Region II</u>	<u>Full</u>	<u>Associate</u>	<u>Assistant</u>	<u>Instructor</u>	<u>All Ranks</u>
Liberal Arts	23,035	18,805	15,473	11,490	18,206
Science	25,150	19,145	16,141	11,627	21,359
Fine Arts	22,664	17,715	14,367	12,072	17,497
Teacher Education	23,529	18,843	15,723	12,348	18,869
Practice Teaching	-	-	-	-	-
Agriculture	23,158	18,766	15,931	11,496	19,763
Engineering	25,372	20,067	16,611	12,643	21,064
Home Economics	23,980	19,150	15,767	12,159	16,956
Law	31,716	23,135	22,172	17,750	28,201
Social Service	25,058	20,196	17,212	14,728	19,611
Library	25,372	19,127	14,602	9,112	16,424
Vet. Medicine	25,434	21,032	18,834	12,125	21,546
Vocational	-	-	-	-	-
Physical Training	22,704	18,603	15,354	12,663	16,379
Nursing	27,274	21,584	16,094	13,705	18,469
Pharmacy	27,495	20,448	16,856	14,009	19,305
Business	26,538	21,508	18,103	12,689	21,415
Optometry	-	-	-	-	-
Technology	-	-	-	-	-

Region II is composed of:

University of Arkansas
Colorado State University
Iowa State University
University of Kansas
Kansas State University
University of Missouri/Columbia
University of Nebraska

University of New Mexico
University of Oklahoma
Oklahoma State University
University of Texas at Austin
Texas Tech University
University of Texas at Dallas
University of Texas at Arlington

OKLAHOMA STATE UNIVERSITY 1977-78

FACULTY SALARY SURVEY

<u>National</u>	<u>Full</u>	<u>Associate</u>	<u>Assistant</u>	<u>Instructor</u>	<u>All Ranks</u>
Liberal Arts	26,261	18,948	15,372	12,286	19,939
Science	26,281	19,482	16,138	12,555	21,916
Fine Arts	23,337	17,953	14,476	12,058	18,223
Teacher Education	24,490	19,242	16,047	12,852	19,682
Practice Teaching	-	-	-	-	-
Agriculture	24,252	18,994	16,128	12,330	20,611
Engineering	26,876	20,327	16,876	12,839	22,281
Home Economics	24,956	19,242	15,947	12,655	17,774
Law	33,354	24,630	21,586	14,779	29,309
Social Service	26,286	20,894	17,124	13,787	20,198
Library	26,736	20,269	16,232	10,920	19,929
Vet. Medicine	27,146	22,597	19,989	13,287	22,824
Vocational	-	-	-	-	-
Physical Training	24,075	19,027	15,706	12,457	17,175
Nursing	26,769	19,321	15,604	12,924	17,347
Pharmacy	26,247	20,230	16,961	14,126	19,962
Business	27,977	21,767	18,261	13,284	22,226
Optometry	28,636	21,678	17,324	-	20,598
Technology	-	-	-	-	-

AVERAGE FACULTY SALARY COSTS PER SEMESTER CREDIT HOUR
FOUR-YEAR INSTITUTIONS

	Undergraduate		Masters		Doctoral	
	Fall'76	Fall'77	Fall'76	Fall'77	Fall'76	Fall'77
<u>LIBERAL ARTS</u>						
Formula	21.15	21.87	56.82	58.75	208.10	215.18
State Average	18.72	20.33	93.82	99.40	189.02	197.03
<u>SCIENCE</u>						
Formula	22.61	23.38	100.16	103.57	299.67	309.86
State Average	18.59	20.59	127.92	135.58	197.66	217.59
<u>FINE ARTS</u>						
Formula	40.90	42.29	91.04	94.14	301.74	312.00
State Average	37.70	40.50	145.79	155.43	184.73	213.53
<u>EDUCATION</u>						
Formula	19.76	20.43	47.17	48.77	178.40	184.47
State Average	26.06	27.49	50.69	57.09	122.92	129.02
<u>ENGINEERING</u>						
Formula	37.19	38.45	102.76	106.25	299.69	309.86
State Average	31.64	31.75	113.93	120.48	214.47	205.36
<u>AGRICULTURE</u>						
Formula	29.39	30.39	82.10	84.89	263.60	272.56
State Average	22.81	27.00	79.86	97.64	99.37	132.36
<u>PRACTICE TEACHING</u>						
Formula	43.91	45.40				
State Average	55.26	60.70				
<u>HOME ECONOMICS</u>						
Formula	27.91	28.86	65.27	67.49	196.60	203.28
State Average	24.65	26.13	98.06	104.84	83.51	113.76
<u>SOCIAL SERVICE</u>						
Formula	31.35	32.42	93.66	96.84	208.10	215.18
State Average	31.70	32.95	64.91	64.89	151.95	144.86

Average Faculty Salary Costs Per Semester Credit Hour
Four-Year Institutions (Cont.)

	Undergraduate		Masters		Doctoral	
	Fall'76	Fall'77	Fall'76	Fall'77	Fall'76	Fall'77
<u>LIBRARY SCIENCE</u>						
Formula	22.21	22.97	66.22	68.47	208.10	215.18
State Average	25.40	30.83	66.63	69.06	141.44	119.94
<u>VOCATIONAL TRAINING</u>						
Formula	20.82	21.53				
State Average	19.57	21.71				
<u>PHYSICAL TRAINING</u>						
Formula	20.04	20.72				
State Average	21.76	21.24				
<u>NURSING</u>						
Formula	63.36	65.51	100.39	103.80	331.77	343.05
State Average	44.91	54.40	68.47	86.50	95.55	170.26
<u>PHARMACY</u>						
Formula	36.27	52.51	92.35	95.49	301.74	312.00
State Average	27.04	30.41	312.92	226.60	156.89	223.09
<u>BUSINESS</u>						
<u>ADMINISTRATION</u>						
Formula	22.57	23.34	62.45	64.57	285.82	295.54
State Average	17.00	17.70	53.68	52.99	178.41	235.63
<u>TECHNOLOGY</u>						
Formula	30.82	31.87	100.16	103.57		
State Average	19.86	37.13				

The costs presented here are for the fall semesters only and credit hour costs for a full year would probably be 5 to 8 percent greater.

AVERAGE FACULTY SALARY COSTS PER SEMESTER CREDIT HOUR
UPPER-LEVEL INSTITUTIONS

	Undergraduate		Masters		Doctoral	
	<u>Fall'76</u>	<u>Fall'77</u>	<u>Fall'76</u>	<u>Fall'77</u>	<u>Fall'76</u>	<u>Fall'77</u>
<u>LIBERAL ARTS</u>						
Formula		37.18		58.75		215.18
State Average		37.18		55.77		188.81
<u>SCIENCE</u>						
Formula		40.92		103.57		309.86
State Average		48.64		88.79		179.98
<u>FINE ARTS</u>						
Formula		58.36		94.14		312.00
State Average		60.91		74.81		49.42
<u>EDUCATION</u>						
Formula		21.25		48.77		184.47
State Average		32.54		55.49		
<u>ENGINEERING</u>						
Formula		42.68		106.25		309.86
State Average		58.00		73.04		76.57
<u>PRACTICE TEACHING</u>						
Formula		45.40				
State Average		78.90				
<u>SOCIAL SERVICE</u>						
Formula		56.41		96.84		215.18
State Average		24.07				
<u>NURSING</u>						
Formula		65.51		103.80		343.05
State Average		57.89		279.33		

Average Faculty Salary Costs Per Semester Credit Hour
Upper-Level Institutions (Cont.)

	Undergraduate		Masters		Doctoral	
	Fall'76	Fall'77	Fall'76	Fall'77	Fall'76	Fall'77
<u>BUSINESS</u>						
<u>ADMINISTRATION</u>						
Formula		26.61		64.57		295.54
State Average		27.21		40.72		200.57
<u>TECHNOLOGY</u>						
Formula		41.11		103.57		
State Average		35.81		88.92		

The costs presented here are for the fall semester only, and credit hours costs for a full year would probably be 5 to 8 percent greater.

Average Faculty Salary Costs Per Semester Credit Hour
Professional Programs

	Professional		Masters		Doctoral	
	Fall'76	Fall'77	Fall'76	Fall'77	Fall'76	Fall'77
<u>LAW</u>						
Formula	36.42	47.07				
State Average	36.32	43.90				
<u>OPTOMETRY</u>						
Formula	69.65	72.02	69.65	72.02	299.67	309.86
State Average	54.27	42.84	345.71	234.81	657.41	465.36
<u>VETERINARY MEDICINE</u>						
Formula	93.30	96.48	93.30	96.48	362.50	374.83
State Average	91.14	75.14	269.01	226.15	383.65	296.43

The costs presented here are for the fall semester only, and credit hour costs for a full year would probably be 5 to 8 percent greater.

PHYSICAL TRAINING
Four-Year Institutions

	<u>Undergraduate</u>		<u>Masters</u>		<u>Doctoral</u>	
	<u>Fall '76</u>	<u>Fall '77</u>	<u>Fall '76</u>	<u>Fall '77</u>	<u>Fall '76</u>	<u>Fall '77</u>
Formula	20.04	20.72				
State Average	21.76	21.24				
UTAR	17.61	17.93				
UTSA	25.66	17.91				
UT-Austin	38.85					
A&M	12.03	12.58				
UH	16.96	21.31				
TECH	16.61	16.61				
PV	28.60	26.82				
TAR	29.90	33.29				
A&I	28.94	33.13				
ET	30.23	34.97				
LAM	23.41	30.47				
MID	18.23	18.68				
NTSU	26.75	26.76				
PAN	31.13	28.75				
SFA	13.55	16.60				
TSU	25.08	26.94				
TWU	19.60	27.98				
WT	50.98	20.52				
ASU	28.39	28.96				
SH	18.97	20.80				
SWT	19.67	19.01				
SR	23.78	13.71				

LIBERAL ARTS
Four-Year Institutions

	<u>Undergraduate</u>		<u>Masters</u>		<u>Doctoral</u>	
	Fall '76	Fall '77	Fall '76	Fall '77	Fall '76	Fall '77
Formula	21.15	21.87	56.82	58.75	208.10	215.18
State Average	18.72	20.33	93.82	99.40	189.02	197.03
UTAR	18.99	21.40	75.16	77.92	123.26	137.24
UTEP	14.58	16.31	78.47	93.74		
UT-Austin	19.57	21.25	105.84	122.18	247.37	229.68
UTSA	22.40	22.98	80.64	71.57		
A&M	15.45	17.63	112.23	114.54	150.75	174.78
UH	20.86	22.26	129.14	129.39	261.32	297.29
UHDT	10.77	13.65				
TECH	18.14	19.16	147.90	132.33	171.82	178.42
PV	16.91	13.90	83.78	67.80		
TAR	19.67	21.67	43.92	48.35		
A&I	21.89	22.39	61.02	58.65	48.67	1,198.33
ET	22.63	25.02	64.62	70.98	89.43	124.66
LAM	20.70	23.78	97.59	118.37	94.50	88.00
MID	17.56	18.38	134.73	132.34		
NTSU	25.20	26.70	76.52	93.17	121.49	160.98
PAN	19.13	19.93	115.25	151.21		
SFA	18.75	20.83	108.09	103.73		
TSU	18.43	17.78	53.59	59.29		
TWU	16.83	21.64	86.48	103.85	81.92	82.52
WT	18.16	18.29	135.32	140.51		
ASU	17.70	19.25	56.89	63.81		
SH	19.07	19.14	55.12	65.99	74.76	7.19
SWT	16.16	17.65	85.68	80.38		
SR	25.95	20.73	211.13	85.88		

LIBERAL ARTS
Upper-Level Institutions

	<u>Undergraduate</u>	<u>Masters</u>	<u>Doctoral</u>
	<u>Fall '77</u>	<u>Fall '77</u>	<u>Fall '77</u>
Formula	37.18	58.75	215.18
State Average	37.18	55.77	188.81
UTD	33.24	65.92	188.81
UTPB	43.80	71.86	
UHV	51.63	62.17	
UHCL	33.39	53.93	
CC	40.81	32.58	
LS	35.43	54.73	
ETSU	46.32	62.80	
TE	45.94	39.18	

SCIENCE
Four-Year Institutions

	<u>Undergraduate</u>		<u>Masters</u>		<u>Doctoral</u>	
	<u>Fall '76</u>	<u>Fall '77</u>	<u>Fall '76</u>	<u>Fall '77</u>	<u>Fall '76</u>	<u>Fall '77</u>
Formula	22.61	23.38	100.16	103.57	299.67	309.86
State Average	18.59	20.59	127.92	135.58	197.66	217.59
UTAR	20.21	24.73	112.37	161.34	300.50	788.25
UTEP	17.92	20.10	129.26	127.66	219.73	182.44
UT-Austin	18.03	17.96	165.74	155.83	226.50	258.93
UTSA	19.43	18.58	111.60	109.12		
A&M	16.99	18.79	119.60	146.49	155.93	177.04
UH	17.32	19.71	168.52	143.54	233.19	247.57
UHDT	14.97	17.74				
TECH	18.31	20.03	148.49	134.96	140.97	128.47
PV	14.26	13.59	56.29	113.62		
TAR	21.70	22.50	66.18	40.40		
A&I	21.42	23.10	135.55	145.37		
ET	33.66	35.06	93.74	101.15	441.41	117.00
LAM	20.74	23.32	133.02	190.22		
MID	22.22	23.02	226.74	184.77		
NTSU	17.88	20.77	142.64	122.54	216.06	225.49
PAN	27.97	31.93	195.27	192.05		
SFA	16.00	19.55	109.75	126.36		
TSU	12.39	16.33	65.41	90.97		
TWU	16.47	23.86	57.04	86.36	282.02	260.92
WT	19.19	20.67	150.44	155.15		
ASU	20.04	21.29	109.66	97.54		
SH	19.81	19.75	111.11	96.41		
SWT	18.24	23.46	87.99	121.34		
SR	29.91	31.34	114.52	107.28		

SCIENCE
Upper-Level Institutions

	<u>Undergraduate</u>	<u>Masters</u>	<u>Doctoral</u>
	<u>Fall '77</u>	<u>Fall '77</u>	<u>Fall '77</u>
Formula	40.92	103.57	309.86
State Average	48.64	88.79	179.98
UTD	44.87	93.47	179.89
UTPB	56.33	117.21	
UHCL	51.18	56.76	
CC	47.50	62.61	
ET	53.14		
TE	45.91	142.97	

FINE ARTS
Four-Year Institutions

	<u>Undergraduate</u>		<u>Masters</u>		<u>Doctoral</u>	
	Fall '76	Fall '77	Fall '76	Fall '77	Fall '76	Fall '77
Formula	40.90	42.29	91.04	94.14	301.74	312.00
State Average	37.70	40.50	145.79	155.43	184.73	213.53
UTAR	40.77	46.71				
UTEP	29.99	34.48	214.98	229.72		
UT-Austin	36.74	36.54	174.24	165.75	218.78	227.01
UTSA	38.12	40.84	165.65	134.07		
A&M	31.98	50.57				
UH	37.21	38.45	195.87	218.97		
UHD	16.30	24.76				
TECH	34.67	39.05	105.23	107.77	140.08	151.53
PV	71.99	56.31	277.67	140.31		
TAR	44.16	41.22	276.00			
A&I	42.61	46.30	77.94	82.24		
ET	39.93	48.52	139.30	143.50		
LAM	41.31	42.86	131.42	193.47		
MID	52.10	59.58	169.98	176.54		
NTSU	36.69	38.23	111.51	131.59	171.98	223.51
PAN	51.50	66.28	428.33	903.67		
SFA	31.94	38.35	179.27	153.35		
TSU	39.45	40.93	147.91	201.25		
TWU	51.95	55.95	134.46	181.49	56.00	142.67
WT	41.34	41.56	166.33	156.04		
ASU	31.90	32.23				
SH	43.20	43.31	145.86	174.43		
SWT	31.94	35.23	167.58	186.54		
SR	59.00	64.51	128.31	130.13		

FINE ARTS
Upper-level Institutions

	<u>Undergraduate</u>	<u>Masters</u>	<u>Doctoral</u>
	<u>Fall '77</u>	<u>Fall '77</u>	<u>Fall '77</u>
Formula	58.36	94.14	312.00
State Average	60.91	74.81	49.42
UTD	65.02	49.16	49.42
UTPB	75.36		
UHV	107.16		
UHCL	31.61	49.86	
CC	62.84	90.16	
ET	37.32		
TE	82.12	309.00	

EDUCATION
Four-Year Institutions

	<u>Undergraduate</u>		<u>Masters</u>		<u>Doctoral</u>	
	Fall '76	Fall '77	Fall '76	Fall '77	Fall '76	Fall '77
Formula	19.76	20.43	47.17	48.77	178.40	184.47
State Average	26.06	27.49	50.69	57.09	122.92	129.02
UTAR	15.98	18.48	21.22	97.81		
UTEP	15.82	16.93	51.20	49.04		
UT-Austin	27.17	29.07	82.71	87.92	152.65	149.20
UTSA	21.66	19.83	51.00	49.76		
A&M	17.43	22.64	55.19	66.75	110.51	126.07
UH	30.22	35.78	53.66	73.91	148.57	143.68
TECH	29.96	31.68	83.10	74.74	121.62	126.91
PV	25.77	18.33	42.03	32.79		
TAR	26.04	28.61	32.44	30.64		
A&I	31.58	31.90	37.80	38.55	111.21	144.96
ET	24.17	27.09	40.30	44.67	101.41	125.28
LAM	31.52	30.86	45.43	65.39		
MID	18.85	20.59	41.84	46.39		
NTSU	37.63	40.05	44.45	52.83	91.26	109.55
PAN	25.94	28.92	56.81	76.19		
SFA	22.83	25.38	34.52	45.43		
TSU	23.72	24.52	58.14	75.35	265.72	176.99
TWU	28.80	33.93	56.01	67.26	80.90	79.99
WT	25.49	26.62	80.44	74.98		
ASU	16.32	19.93	35.66	69.67		
SH	30.78	31.58	43.49	43.07		
SWT	26.71	24.03	64.50	73.67		
SR	33.04	27.38	51.28	43.27		

EDUCATION
Upper-Level Institutions

	<u>Undergraduate</u>	<u>Masters</u>	<u>Doctoral</u>
	<u>Fall '77</u>	<u>Fall '77</u>	
Formula	21.25	48.77	
State Average	32.54	55.49	
UTD	25.52	52.99	
UTPB	41.63	85.53	
UHV	24.94	52.85	
UHCL	38.23	53.76	
CC	38.31	60.52	
LS	37.22	65.24	
ET	23.77	46.97	
TE	35.10	60.81	

PRACTICE TEACHING
Four-Year Institutions

	<u>Undergraduate</u>		<u>Masters</u>		<u>Doctoral</u>	
	<u>Fall '76</u>	<u>Fall '77</u>	<u>Fall '76</u>	<u>Fall '77</u>	<u>Fall '76</u>	<u>Fall '77</u>
Formula	43.91	45.40				
State Average	55.26	60.70				
UTAR	66.07	69.98				
UTEP	16.01	72.45				
UTSA	49.14	24.07				
UT-Austin	36.81	38.44				
A&M	35.97	36.80				
UH	46.97	24.37				
TECH	63.59	84.96				
PV	129.28	111.18				
TAR	70.32	65.03				
A&I	46.37	43.68				
ET	86.66	71.68				
LAM	70.93	107.43				
MID	102.35	134.29				
NTSU	3.38	4.96				
PAN	72.79	84.35				
SFA	58.35	73.68				
TSU	40.93	28.82				
TWU	124.95	143.79				
WT	13.58	17.20				
ASU	102.55	78.57				
SH	84.43	103.54				
SWT	72.91	92.22				
SR	105.90	108.64				

PRACTICE TEACHING
Upper-Level Institutions

	<u>Undergraduate</u>	<u>Masters</u>	<u>Doctoral</u>
	<u>Fall '77</u>		
Formula	45.40		
State Average	78.90		
UTD	108.03		
UTPB	74.75		
UHV	102.95		
UHCL	73.17		
CC	93.40		
LS	48.20		
ET	72.21		
TE	31.09		

ENGINEERING
Four-Year Institutions

	<u>Undergraduate</u>		<u>Masters</u>		<u>Doctoral</u>	
	Fall '76	Fall '77	Fall '76	Fall '77	Fall '76	Fall '77
Formula	37.19	38.45	102.76	106.25	299.69	309.86
State Average	31.64	31.75	113.93	120.48	214.47	205.36
UTAR	29.41	30.00	65.90	89.78	134.10	141.73
UTEP	26.94	36.89	161.51	95.16		
UT-Austin	29.88	27.30	135.00	132.52	250.93	214.55
UTSA	51.52	27.00	144.81	140.90		
A&M	28.59	30.48	105.84	141.35	172.28	190.27
UH	46.50	38.83	124.35	109.99	273.09	248.27
UHDT	14.52	30.51				
TECH	38.01	41.46	151.48	137.31	212.72	197.57
PV	26.22	26.45				
A&I	37.11	31.58	115.43	118.65		
LAM	25.21	28.03	73.31	87.47	194.76	265.67
TAR	57.98	47.55				

ENGINEERING
Upper-Level Institutions

	<u>Undergraduate</u>	<u>Masters</u>	<u>Doctoral</u>
	<u>Fall '77</u>	<u>Fall '77</u>	<u>Fall '77</u>
Formula	42.68	106.25	309.86
State Average	58.00	73.04	76.57
UTD	81.67	43.63	76.57
UTPB	43.64		
UHD	30.51		
UHV	100.44	207.98	

NURSING
Four-Year Institutions

	<u>Undergraduate</u>		<u>Masters</u>		<u>Doctoral</u>	
	<u>Fall '76</u>	<u>Fall '77</u>	<u>Fall '76</u>	<u>Fall '77</u>	<u>Fall '76</u>	<u>Fall '77</u>
Formula	63.36	65.51	100.39	103.80	331.77	343.05
State Average	44.91	54.40	68.47	86.50	95.55	170.26
UTEP	16.26	51.34		172.25		
UT-Austin	57.44	66.02	85.13	144.43	118.62	195.94
PV	49.98	46.97				
TAR	72.89	75.21				
LAM	47.62	46.00				
MID	39.91	41.24				
PAN	42.36					
TWU	51.43	55.41	65.41	79.51	81.11	140.93
WT	52.87	64.00				
ASU	52.66	66.35				
SWTS	55.06	67.68	63.76	78.14		
UTAR		42.78		112.80		
UTSA		22.59				

NURSING
Upper-Level Institutions

	<u>Undergraduate</u>	<u>Masters</u>	<u>Doctoral</u>
	<u>Fall '77</u>	<u>Fall '77</u>	<u>Fall '77</u>
Formula	65.51	103.80	343.05
State Average	57.89	279.33	
CC	67.03		
TE	47.87	279.33	

BUSINESS ADMINISTRATION
Four-Year Institutions

	<u>Undergraduate</u>		<u>Masters</u>		<u>Doctoral</u>	
	<u>Fall '76</u>	<u>Fall '77</u>	<u>Fall '76</u>	<u>Fall '77</u>	<u>Fall '76</u>	<u>Fall '77</u>
Formula	22.57	23.34	62.45	64.57	285.82	295.54
State Average	17.00	17.70	53.68	52.99	178.41	235.63
UTAR	17.01	16.92	46.57	51.00	162.24	154.69
UTEP	13.84	15.27	44.92	71.33		
UTSA	23.57	23.46	53.41	52.43		
UT-Austin	13.27	12.41	52.16	50.41	228.33	290.90
A&M	17.44	17.84	83.86	73.15	231.02	231.49
UH	16.96	16.28	54.13	49.84	189.05	381.18
UHD	8.47	17.61				
TECH	16.07	17.90	77.22	73.14	144.19	155.20
PV	24.19	19.76	27.86	15.76		
TAR	17.89	17.94	42.83	27.09		
A&I	21.98	20.79	61.11	50.48		
ET	19.46	23.36	42.75	41.31		
LAM	19.84	23.68	80.07	80.70		
MID	18.24	24.30	56.42	69.90		
NTSU	20.17	19.83	47.29	51.13	119.78	143.47
PAN	20.80	24.73	65.96	66.29		
SFA	17.29	18.02	52.63	65.28		
TSU	17.99	28.59	27.76	39.81		
TWU	22.48	23.27	100.21	91.04		
WT	21.73	19.82	55.22	58.19		
ASU	13.51	15.21	39.66	52.50		
SH	16.68	15.01	51.65	72.40		
SWT	12.51	14.64	116.55	81.99		
SR	42.18	28.80	52.93	19.59		

BUSINESS ADMINISTRATION
Upper-Level Institutions

	<u>Undergraduate</u>	<u>Masters</u>	<u>Doctoral</u>
	<u>Fall '77</u>	<u>Fall '77</u>	<u>Fall '77</u>
Formula	26.61	64.57	295.54
State Average	27.21	40.72	200.57
UTD	14.40	40.94	200.57
UTPB	26.75	39.86	
UHV	26.69	59.19	
UHCL	30.76	39.47	
CC	35.09	40.38	
LS	38.57	74.10	
ET	28.51	34.43	
TE	33.89	60.38	

1978 UNDERGRADUATE FORMULAS
AND PROPOSED MODIFICATIONS

	<u>Ratio *</u>		<u>Formula</u>	<u>Av. Cost</u>	<u>Revised</u>		<u>Proposed</u>	
	<u>F</u>	<u>A</u>			<u>R</u>	<u>Formula</u>	<u>R</u>	<u>\$16,170 Av.</u>
LIBERAL ARTS	24	25	21.87	20.33	24	21.87	24	22.46
SCIENCE	23	25	23.38	20.59	23	23.38	23	23.43
FINE ARTS	12	12	42.29	40.50	12	42.29	12	44.92
EDUCATION	24	19	20.43	27.49	22	22.29	22	24.50
PRACTICE TEACHING	11	9	45.40	60.70	10	49.94	10	53.90
AGRICULTURE	17	20	30.39	27.00	18	28.70	18	29.94
ENGINEERING	15	18	38.45	31.75	14	41.20	14	38.50
HOME ECONOMICS	17	19	28.86	26.13	18	27.26	18	29.94
SOCIAL SERVICE	17	14	32.42	32.95	18	30.62	18	29.94
LIBRARY SCIENCE	21	16	22.97	30.83	18	26.80	18	29.94
VOCATIONAL TRAINING	22	19	21.53	21.71	22	21.53	22	24.50
PHYSICAL TRAINING	22	19	20.72	21.24	22	20.72	22	24.50
NURSING	8	9	65.51	54.40	8	65.51	8	67.38
PHARMACY	10	21	52.51	30.41	10	52.21	10	53.90
BUSINESS ADMINISTRATION	24	30	23.34	17.70	24	23.34	24	22.46
TECHNOLOGY	15	19	31.87	37.13	17	28.12	17	31.71

* F = Formula A = Actual

1978 MASTERS LEVEL FORMULAS
AND PROPOSED MODIFICATIONS

	<u>Ratio*</u>		<u>Formula</u>	<u>Average Cost</u>	<u>Revised</u>		<u>Proposed</u>	
	<u>F</u>	<u>A</u>			<u>R</u>	<u>Formula</u>	<u>R</u>	<u>\$19,762 Av.</u>
LIBERAL ARTS	13	9	58.75	99.40	10	76.38	10	82.34
SCIENCE	8	7	103.57	135.58	7	118.37	7	117.64
FINE ARTS	8	6	94.14	155.43	7	107.59	7	117.63
EDUCATION	15	14	48.77	50.69	15	48.77	15	54.89
AGRICULTURE	9	8	84.89	97.64	8	95.50	8	102.93
ENGINEERING	8	8	106.25	120.48	7	121.43	7	117.63
HOME ECONOMICS	11	8	67.49	104.84	9	82.49	9	91.49
SOCIAL SERVICE	8	13	96.84	64.89	12	64.56	12	68.58
LIBRARY SCIENCE	11	12	68.47	69.06	11	68.47	11	74.86
NURSING	7	9	103.80	86.50	8	90.83	8	102.93
BUSINESS ADMINISTRATION	13	18	64.57	52.99	13	64.57	13	63.34
PHARMACY	8	4	95.49	226.50	6	127.32	6	137.24

* F = Formula A = Actual

1978 DOCTORAL LEVEL FORMULAS
AND PROPOSED MODIFICATIONS

	<u>RATIO*</u>		<u>Formula</u>	<u>Average Cost</u>	<u>Revised</u>		<u>Proposed</u>	
	<u>F</u>	<u>A</u>			<u>R</u>	<u>Formula</u>	<u>R</u>	<u>\$25,312 Av</u>
LIBERAL ARTS	6	6	215.18	197.03	7	184.44	7	200.89
SCIENCE	5	6	309.86	217.59	6	258.21	5	281.24
FINE ARTS	4	6	312.00	213.53	5	249.60	5	281.24
EDUCATION	7	9	184.47	129.02	9	143.47	9	156.24
AGRICULTURE	5	9	272.56	132.36	8	170.35	8	175.78
ENGINEERING	5	7	309.86	205.36	6	258.22	5	281.20
HOME ECONOMICS	6	10	203.28	113.76	8	152.46	8	175.78
SOCIAL SERVICE	6	9	215.18	144.86	8	161.39	8	175.78
LIBRARY SCIENCE	6	10	215.18	119.94	8	161.39	8	175.78
NURSING	5	7	343.05	170.26	7	245.04	7	200.89
BUSINESS ADMINISTRATION	5	6	295.54	235.63	6	246.28	5	281.24
PHARMACY	4	5	312.00	223.09	5	249.60	5	281.24

* F = Formula A = Actual

1978 UPPER-LEVEL INSTITUTIONS
UNDERGRADUATE FORMULAS AND PROPOSED MODIFICATIONS

	<u>Ratio*</u>		<u>Formula</u>	<u>Average Cost</u>	<u>Proposed \$16,170</u>	
	<u>F</u>	<u>A</u>			<u>R</u>	<u>Formula</u>
LIBERAL ARTS	14	16	37.18	37.18	15	35.93
SCIENCE	13	12	40.92	48.64	13	41.46
FINE ARTS	9	8	58.36	60.91	9	59.89
EDUCATION	23	17	21.25	32.54	20	26.95
ENGINEERING	14	9	42.68	58.00	12	47.67
SOCIAL SERVICE	10	14	56.41	24.07	15	35.93
BUSINESS ADMINISTRATION	21	21	26.61	27.21	21	25.67
TECHNOLOGY	12	14	41.11	35.81	15	35.93
PRACTICE TEACHING	11	7	45.40	78.90	10	53.90
NURSING	8	10	65.51	57.89	8	67.38

F = Formula A = Actual

COSTS PER UPPER-LEVEL UNDERGRADUATE HOUR, FALL 1977
FOUR-YEAR AND UPPER-LEVEL UNIVERSITIES

	<u>Formula</u>	<u>Upper Level</u>	<u>Four-Year</u>
Liberal Arts	37.18	37.18	34.15
Science	40.92	48.64	37.96
Fine Arts	58.36	60.91	53.03
Education	21.25	32.54	29.66
Engineering	42.68	58.00	37.11
Practice Teaching	45.80	78.90	60.70
Social Service	56.41	24.07	41.73
Library Science	22.97	25.84	32.93
Nursing	65.51	57.89	57.48
Business Administration	26.61	27.21	20.10
Technology	41.11	35.81	26.73

The formulas in all cases are those which apply to upper-level universities. In some cases, they are identical to the formulas used by four-year universities.

DEPARTMENTAL OPERATING EXPENSE

Closely related to the appropriation for Faculty Salaries is the appropriation for Departmental Operating Expense. This formula area provides funds to cover clerical help, equipment and supplies, laboratory assistants and paper graders, telephone, travel and numerous other items essential to the operation of an academic department. In a number of states, Departmental Operating Expense is combined with an expense known in Texas as Instructional Administration to create an expenditure area known as Instructional Cost. In some states Faculty Salaries form a part of Instructional Cost, while in others even more elements are included under this heading.

These comparisons are made, not to imply that Texas should copy the classification of other states, but to indicate that it is extremely difficult to compare the Texas formulas with those in other states. A few illustrations may be of value. Alabama comes closest to a formula rate structure comparable to the one in Texas. Alabama uses a system of weights varying from a value of 1.00 for general undergraduate hours to 20.53 for doctoral hours in veterinary medicine. In the Alabama system, 1.00 has a value of \$2.96. For a comparison of Alabama and Texas rates by program and level, see the table on page 68.

Arkansas combines Departmental Operating Expense and Instructional Administration and uses a system of rates which apply to all programs by level. The rate for lower-level undergraduate academic programs is \$7.63 per credit hour, for upper-level programs it is \$15.26 per credit hour, for graduate 1 programs the rate is \$21.10 per credit hour, and the rate for doctoral level credit hours is \$47.48.

Georgia combines Departmental Operating Cost and Instructional

Administration, while Missouri and Tennessee add Faculty Salaries to the formula. Oklahoma and South Carolina combine Departmental Operating Cost and Instructional Administration and fund the item as a percentage of Faculty Salaries. The South Carolina rate is 40 percent for the larger universities and 35 percent for the smaller four-year institutions.

Additional examples could be listed but it should be clear that there are almost as many ways of funding departmental costs as there are states which use formulas. The Texas system has worked reasonably well although it seems to have been based on nothing more than a desire to provide the institutions with about the same amount of money they were receiving when the formulas were adopted. The appropriation for Departmental Operating Expense is usually overspent by three or four percent but more than half of the over expenditure is due to The University of Texas at Austin which is able to supplement the appropriation and does so when necessary. There is much variation in the use of the money by program area, with some programs using more than appropriated and others using less. The formula for Liberal Arts is the one completely lacking in applicability to need. In 1978, the Departmental Operating Expense appropriation was overspent by \$1,981,202 or 3.2 percent. In the same year, the D.O.E. formula for Liberal Arts was over expended by an estimated \$6,200,000 or 85 percent. For the relationship of Departmental Operating Expense expenditures to appropriations see the tables on pages 70 and 71, and for a table showing Departmental Operating Expense production of funds per instructor see page 69.

The appropriations bill for the 1978-1979 biennium provided for salary increases of 3.4 percent for each year, but provided no increases, other

than those due to increased enrollment, for other expenses. This had the effect of sharply reducing the purchasing power of departments for equipment and supplies. The fact that appropriations are underspent in a number of program areas indicates that the universities are making careful use of the funds provided and that the formula for Liberal Arts obviously needs upward adjustment.

In spite of its questionable origin, the existing formula system for Departmental Operating Expense has much to recommend it. For one thing it provides the institutions with funds which they find acceptable, and, for another, there is the tradition of satisfactory performance.

The rates obviously need some modification but there is little information on which to develop new ones. The table on page 74 compares appropriations and expenditures in the various program areas but there is no information as to costs by level. A program by program comparison indicates that Liberal Arts and Physical Training need greatly increased rates while Engineering and Business Administration are receiving far more than needed. However, both Engineering and Business Administration are entering a period in which large expenditures for equipment will be needed. The reassuring factor in considering the formulas for Departmental Operating Expense is that in 1978 total expenditures exceeded appropriations by only 3.2 percent. If the legislature had provided a 3.4 percent increase in the rate for equipment and supplies as it did for salaries, appropriations and expenditures would have been almost identical.

Proposal:

If Texas is to continue funding Departmental Operating Cost by the use of dollar amounts by program and by level, accounting systems must be

developed to reflect costs by program and by level. As a temporary solution, it is proposed that the rates for Liberal Arts be increased by 50 percent and that no other changes be made. A simple method of providing funds for Departmental Operating Expense is to use percentages of Faculty Salaries. Such a system would benefit from cost information by program and level but would be more flexible than the current system. The groupings shown on pages 72 and 73 are recommended.

A method that is even more simple, and one which is widely used, is to fund Departmental Operating Expense as a percentage of total Faculty Salaries. The Texas appropriation for Departmental Operating Expense in 1978 amounted to 21 percent of Faculty Salaries. A rate of 23 percent would have brought the appropriation close to expenditures for the year. This method would be recommended were it not for the fact that several institutions would suffer substantial reductions in appropriations. It is recommended that formula study committees give some consideration to this method which works in a satisfactory manner in a number of states.

COMPARISON OF INSTRUCTIONAL COSTS* IN ILLINOIS, FY 1977
TO TEXAS APPROPRIATED RATES

	<u>LOWER LEVEL</u>		<u>UPPER LEVEL</u>		<u>GRAD I/PROF.</u>		<u>GRAD II</u>	
	<u>ILL</u>	<u>TEX</u>	<u>ILL</u>	<u>TEX</u>	<u>ILL</u>	<u>TEX</u>	<u>ILL</u>	<u>TEX</u>
AGRICULTURE	50.68	36.74	70.30	36.74	154.39	114.67	193.66	410.14
ARCHITECTURE	57.84	51.84	102.07	51.84	165.92	135.33	241.82	446.23
BIOLOGICAL SCIENCE	44.52	32.39	86.85	32.39	206.27	132.73	257.73	446.21
BUSINESS	35.46	26.65	52.72	26.65	103.72	78.74	145.23	318.39
COMMUNICATIONS	39.34	22.45	68.42	22.45	127.00	65.46	160.04	248.80
EDUCATION	64.82	23.84	79.40	23.84	103.65	55.31	157.45	210.97
ENGINEERING	77.66	51.84	118.78	51.84	181.84	135.33	239.55	446.23
FINE ARTS	58.98	50.68	95.53	50.68	171.26	123.61	190.30	448.28
FOREIGN LANGUAGE	65.51	22.45	86.38	22.45	196.20	65.46	188.81	248.80
HEALTH PROFESSIONS	52.36	72.47	118.47	72.47	139.99	136.86	220.75	495.81
HOME ECONOMICS	40.90	33.61	63.63	33.61	135.81	81.56	246.87	221.03
LAW					108.61	39.68		
LETTERS	51.01	22.45	72.47	22.45	152.17	65.46	240.99	248.80
LIBRARY SCIENCE	60.63	27.11	104.39	27.11	111.51	74.36	114.30	248.80
MATH	39.93	22.45	65.69	22.45	142.78	65.46	219.53	248.80
PHYSICAL SCIENCE	60.67	32.39	93.14	32.39	212.74	132.73	251.89	446.21
SOCIAL SCIENCE	40.98	22.45	71.68	22.45	161.56	65.46	267.25	248.80
VETERINARY	83.92	-	491.78	-	294.75	148.85	223.88	516.38

* Instructional Cost is Faculty Salaries plus Departmental Operating Expense.

COMPARISON OF TEXAS AND ALABAMA RATES
FOR DEPARTMENTAL OPERATING EXPENSE, 1979*

	<u>Undergraduate</u>		<u>Graduate I</u>		<u>Graduate II</u>	
	<u>Ala</u>	<u>Tex</u>	<u>Ala</u>	<u>Tex</u>	<u>Ala</u>	<u>Tex</u>
Business	\$3.32	\$4.22	\$9.68	\$16.86	\$39.81	\$33.71
General	2.96	1.34	8.08	8.95	30.58	42.14
Education	3.08	4.22	6.81	8.43	26.02	33.71
Nursing, Health	8.11	9.43	14.62	37.75	52.10	169.82
Engineering	6.13	15.16	16.16	33.71	52.10	151.71
Fine Arts	6.19	10.13	14.65	33.71	52.42	151.71
Home Economics	4.11	5.90	9.89	16.86	27.56	25.29
Science	3.82	10.13	15.87	33.71	52.10	151.71
Military Science	0.36	4.22	-	-	-	-
Law	-	-	5.18	8.95	-	-
Architecture	4.94	15.16	14.18	33.71	48.90	151.71
Agriculture	4.47	7.61	13.53	33.71	47.45	151.71
Veterinary	-	-	17.08	57.50	60.77	159.31
Pharmacy	6.13	21.16	14.98	33.71	41.71	151.71
Interdisciplinary	3.73	NA	9.56	NA	30.58	NA

* The Alabama rates per credit hour are proposals while those for Texas are appropriated rates.

DEPARTMENTAL OPERATING EXPENSE PER INSTRUCTOR
(1978)

<u>Program</u>	<u>Bachelor</u>	<u>Masters</u>	<u>PhD.</u>
Liberal Arts	950	2,742	4,472
Science	6,866	6,361	13,417
Fine Arts	3,582	6,361	10,734
Education	2,981	2,981	4,174
Practice Teaching	1,370	-	-
Agriculture	3,815	7,156	13,417
Engineering	6,705	6,361	13,417
Home Economics	2,958	4,374	2,684
Social Service	2,117	2,385	3,578
Library Science	3,144	2,186	4,472
Vocational Training	3,972	-	-
Physical Training	2,739	-	-
Nursing	2,225	6,233	15,019
Pharmacy	6,240	6,361	10,734
Business Administration	2,988	5,170	2,982
Technology	3,533	6,361	-
	<u>Special Professional</u>	<u>PhD</u>	
Law	5,063		
Optometry	7,072	13,417	
Veterinary Medicine	13,560	11,272	

DEPARTMENTAL OPERATING EXPENSE
APPROPRIATIONS MINUS EXPENDITURES

<u>Institution(4-year)</u>	<u>1977</u>	<u>1978</u>
ASU	26,066	(2,775)
ET	(20,469)	(404,233)
LAM	(76,616)	(167,990)
MID	36,591	(1,890)
NTSU	188,285	319,238
PAN	(11,574)	(22,072)
SH	(153,563)	(125)
SWT	65,181	(176,920)
SFA	140,373	134,370
SR	60,781	66,455
PV	(181,757)	(61,208)
TAR	10,371	18,345
A&M	(421,413)	(389,036)
TS	152,431	562,537
TECH	(66,871)	120,243
TWU	129,753	(11,105)
UTAR	(441,451)	115,692
UT	(1,687,782)	(1,169,953)
UTEP	(172,816)	92,203
UTSA	NA	(613,281)
UH	(829,859)	(581,309)
UHD	NA	268,269
A&I	27,447	(214,501)
WT	70,035	33,435
Totals	(3,156,857)	(2,085,611)

DEPARTMENTAL OPERATING EXPENSE
APPROPRIATION MINUS EXPENDITURES

<u>Institution(upper-level)</u>	<u>1978</u>
ETT	5,853
TE	48,309
UTD	(18,234)
UTPB	(28,922)
UHCL	(179,936)
UHV	(73,969)
CC	(3,890)
LS	<u>825</u>
Total	249,964

PERCENTAGES OF FACULTY SALARIES AS DEPARTMENTAL
OPERATING EXPENSE FORMULA

Undergraduate

<u>10%</u>	<u>33%</u>
Liberal Arts	Science
Teacher Education	Fine Arts
Practice Teaching	Agriculture
Home Economics	Engineering
Social Service	Vocational Training
Library Science	Physical Training
Nursing	Pharmacy
Business	Technology

Masters

<u>20%</u>	<u>33%</u>
Liberal Arts	Science
Teacher Education	Fine Arts
Home Economics	Agriculture
Social Science	Engineering
Library Science	Nursing
Business	Pharmacy
	Technology

PERCENTAGES OF FACULTY SALARIES AS DEPARTMENTAL
OPERATING EXPENSE FORMULA (Cont.)

Doctoral

<u>20%</u>	<u>45%</u>
Liberal Arts	Science
Teacher Education	Fine Arts
Home Economics	Agriculture
Social Service	Engineering
Library Science	Veterinary Medicine
Business	Pharmacy
Nursing	Optometry

Special Professional

<u>25%</u>	<u>45%</u>
Law	Veterinary Medicine
Optometry	

DEPARTMENTAL OPERATING EXPENSE BY PROGRAM AREA
APPROPRIATION MINUS EXPENDITURES, STATEWIDE

<u>Program</u>	<u>1977</u>	<u>1978</u>
Liberal Arts	\$(4,407,114)	\$(6,223,475)
Science	972,128	674,844
Fine Arts	788,465	356,267
Teacher Education	1,780,783	633,315
Agriculture	(288,983)	(407,648)
Engineering	621,130	1,862,569
Home Economics	15,264	66,573
Law	(500,906)	33,894
Social Service	(33,188)	899
Library Science	(36,410)	(56,152)
Veterinary Medicine	191,134	185,091
Vocational Training	105,548	59,134
Physical Training	(1,206,824)	(902,843)
Nursing	39,919	(13,177)
Pharmacy	37,470	445,492
Business	983,850	1,361,043
Optometry	59,325	119,946
Technology	(103,525)	23,458
Military Science	(260,664)	(227,746)

INSTRUCTIONAL ADMINISTRATION

The Texas formula for Instructional Administration is one of the most complicated used by any state for any purpose, and it is quoted in full on page 77. Even though the formula is structured to reflect every aspect of Instructional Organization, it consistently produces less money than the institutions devote to the area. The formula was obviously designed to meet the needs of universities with Special Professional programs, yet, Texas A&M University was the only institution with a Special Professional program which did not spend more than the formula produced amount for Instructional Administration in either 1977 or 1978. The remaining schools with Special Professional programs joined with most other institutions, both large and small, in spending more than the formula produced amount. The tables on pages 78 and 79 show how each institution handled the problem of finance for Instructional Administration.

As was indicated in the discussion of Departmental Operating Expense a number of states combine Instructional Administration and Departmental Operating Expense into one formula. No state was studied which had a separate formula for Instructional Administration.

The Texas formula ultimately arrives at a percentage of Faculty Salaries as the amount for Instructional Administration. The statewide average cost for this formula area in the four-year institutions in 1978 was 4.9 percent of Faculty Salaries with the institutions with Special Professional programs having percentages higher than the average and those without Special Professional programs having percentages below the average.

The consideration given schools with Special Professional programs is easy to understand, as each program requires the office of a dean and enrollment in the program is not great enough to provide adequate funding without assistance.

It is also true that large institutions with multiple doctoral and professional programs need much more money for Instructional Administration than do smaller institutions with less complicated organizations. It so happens that in Texas each of the institutions with multiple doctoral and professional programs has an enrollment in excess of 20,000 FTE students. This makes it possible for a greatly simplified formula to meet the needs of the institutions for Instructional Administration.

Proposal:

The proposed formula for Instructional Administration is:

Institutions with more than 20,000 FTE students 6 percent of Faculty Salaries.

Institutions with less than 20,000 FTE students 4.5 percent of Faculty Salaries plus \$100,000 for each Special Professional program.

This formula would give most institutions slightly more than the present formula and an amount which more nearly matches actual expenditures.

INSTRUCTIONAL ADMINISTRATION
FORMULA 1980

(Part 1 - Part 2) times Faculty Salaries for each year of the biennium
equals dollar request for Instructional Administration.

A. Part 1 shall be computed as follows:

5.400 for undergraduate operation
plus 0.400 if there is organization for master's level programs
minus 0.800 if there are doctoral programs (applicable if doctoral
semester credit hours produced in the Base Period
exceed 3,000)
plus 1.600 if there is organization for special professional programs

B. Part 2 contribution is shown below:

Divide undergraduate, graduate, and special professional Base Period Semester Credit Hours by the number of colleges, schools, or divisions in these categories approved by the Coordinating Board. The results are denoted by USCH, GSCH, SPSCH, their nature as averages being indicated by the bars above the letter symbols. The numbers 21,000 and 3,000 are identified as critical sizes corresponding to these. The part 2 computation is as follows:

Undergraduate: $0.690 + (.000007 \times \overline{\text{USCH}})$ if
USCH exceeds 21,000; $.000040 \times \overline{\text{USCH}}$ if not.
plus Graduate: $0.190 - (.000008 \times \overline{\text{GSCH}})$ if $\overline{\text{GSCH}}$
exceeds 21,000; $.000001 \times \overline{\text{GSCH}}$ if not.
plus Special Professional: $0.204 + (-.000002 \times \overline{\text{SPSCH}})$
if $\overline{\text{SPSCH}}$ exceeds 3,000; $.000076 \times \overline{\text{SPSCH}}$ if not.

INSTRUCTIONAL ADMINISTRATION
APPROPRIATIONS MINUS EXPENDITURES

Institution(4-year)	<u>1977</u>	<u>1978</u>
ASU	4,664	4,150
ET	(57,799)	(53,428)
LAM	(34,513)	(186,416)
MID	(34,501)	(31,121)
NTSU	(57,720)	(110,326)
PAN	(22,786)	(55,566)
SH	(1,191)	1,009
SWT	50,797	11,719
SFA	38,235	3,477
SR	6,721	(70)
PV	19,931	(65,180)
TAR	(1,021)	3,030
AM	6,442	97,334
TS	4,314	(66,727)
TECH	7,961	(29,315)
TWU	(26,424)	(23,622)
UTAR	(45,326)	(66,921)
UT	(1,283,861)	(1,301,786)
UTEP	(290)	14,132
UTSA	NA	(70,965)
UH	41,093	(421,724)
UHD	NA	(92,743)
A&I	(10,374)	(20,731)
WT	(69,096)	(74,031)
Total	(1,464,744)	(2,535,821)

INSTRUCTIONAL ADMINISTRATION
APPROPRIATIONS MINUS EXPENDITURES

<u>Institution (upper-level)</u>	<u>1978</u>
ETT	(11,781)
TE	(29,474)
UTD	(116,851)
UTPB	(46,356)
UHCL	13,164
UHV	69,649
CC	(43,707)
LS	<u>(17,184)</u>
Total	(182,540)

LIBRARY

The Library formula in Texas is driven by a dollar amount per credit hour. No librarian would concede that it is adequate but it has permitted institutions to meet the basic needs of their students. The libraries are finding the 1978-1979 biennium a particularly bad period as the appropriations bill provided funds for a 3.4 percent increase in wages and salaries, but no funds are provided to offset increased costs of books and supplies. These costs will probably increase at least 20 percent during the biennium with the result that purchases will have to be greatly curtailed. The problem is compounded by the fact that most university libraries in Texas are attempting to obtain audio-visual equipment and materials. Many high schools and most community colleges have made extensive use of audio-visual materials for years but the universities have usually had more pressing needs for their funds.

Library expenditures have not varied greatly from appropriations, which can be interpreted to mean that librarians have spent all of the money they had. It would obviously be possible to justify much larger expenditures and large expenditures are essential for maintaining and increasing collections and for the addition of audio-visual materials. In 1978, all of the four-year institutions combined overspent the library appropriation by \$1,613,854, but in that year the University of Texas at Austin spent \$1,680,423 more than its library appropriation. This is simply another example of The University of Texas using funds available to it for a meritorious purpose. For a table of library expenditures see pages 84 and 85.

In 1978, the Library formula as modified by the Legislature provided

funds on a credit hour basis in the following manner:

Undergraduate	\$2.88
Masters and Special Professional	5.80
Law	15.31
Doctoral	24.80

Minimum of \$450,000 except for schools with total semester credit hour production below 50,000. For these institutions, the formula was \$225,000 plus \$9.00 per semester hour for all semester credit hours in excess of 25,000 to the minimum of \$450,000.

The legislature occasionally provides schools with funds in excess of formula produced amounts. In 1978, East Texas State University Center at Texarkana received \$937,500, Texas Eastern University \$150,000 and the University of Texas at Dallas \$500,000 more than the formula provided.

Texas has been more generous than some states and less generous than others in providing for university libraries. The formula systems of several states are presented for purposes of comparison.

Alabama and Arkansas use systems closely resembling the Texas system with the following rates:

<u>Alabama</u>	
Undergraduate	\$3.28
Graduate I	6.60
Graduate II	28.21
Law	17.41

<u>Arkansas</u>	
Lower Level	\$2.67
Upper Level	5.69
Graduate I	10.51
Graduate II	17.97
Law	17.97

Kentucky also uses a system based on credit hours, and the rates in 1978 were:

Undergraduate	\$4.33
Masters	8.67
Doctoral & Special	37.15
Law	22.92

Various states use groupings of instructional costs to fund libraries. The Library formula in Georgia is 9 percent of the appropriated amounts for Faculty Salaries, Departmental Operating Expense, Instructional Administration and Research. Louisiana assigns libraries 7.35 percent of the appropriations for instruction, research, public service and academic support. South Carolina uses a formula which funds libraries at 10 percent of total instructional costs (i.e. faculty salaries, departmental operating expense and instructional administration).

The table on page 86 shows library appropriations as a percentage of Faculty Salary appropriations for Texas universities. Tarleton, Midwestern, Angelo, Sul Ross, University of Texas of the Permian Basin, Corpus Christi State University, Laredo State University, University of Houston at Clear Lake, University of Houston Downtown and University of Houston at Victoria differ from most of the institutions because each of them benefits from the minimum. The three schools which received special appropriations are not included.

Proposals:

There is much to be said in favor of a formula system which has been followed as closely as the Library formula in Texas and there is no great demand that it be changed. However, the states which use percentages tie the library appropriation to a definite base and this, too, has merit.

A Library formula calling for an appropriation of 12 percent of Faculty Salaries would closely match that recommended by the Coordinating Board for 1978.

The formula driven by a dollar amount per credit hour has worked in the past and will probably work in the future, but a formula based on a percentage of Faculty Salaries also has much to recommend it. The proposal is that a percentage formula be adopted. A rate of 12 percent of Faculty Salaries would give libraries support comparable to the support they have had. The current minimums would need to be continued.

It should be emphasized that neither the current dollar rate nor the proposed 12 percent rate would enable libraries to overcome the losses in buying power suffered during the 1978-1979 biennium, and neither rate will permit a meaningful acquisition of audio-visual materials. The university libraries need more support than they have received. Over a period of years a Library formula of 15 percent of Faculty Salaries would enable the libraries to recoup the losses of the present biennium and to begin the acquisition of audio-visual materials.

LIBRARY
APPROPRIATIONS MINUS EXPENDITURES

<u>Institution(4-year)</u>	<u>1977</u>	<u>1978</u>
ASU	(21,665)	8,429
ET	6,825	(3,598)
LAM	460	(28,290)
MID	(9,790)	12,819
NTSU	29,308	(21,078)
PAN	(38,648)	39,976
SH	45,792	5,306
SWT	(42,093)	5,747
SFA	19,067	18,644
SR	17,826	79,291
PV	(46,853)	-0-
TAR	(5,668)	38,915
A&M	(218,700)	363,661
TS	-0-	-0-
TECH	2,281	(36,464)
TWU	56,043	(68,070)
UTAR	(29,531)	12,028
UT	(1,749,940)	(1,680,423)
UTEP	(138,200)	56,705
UTSA	NA	(86,693)
UH	424,823	(519,649)
UHD	NA	140,813
A&I	35,622	(4,890)
Wi	(37,990)	2,967
Total	(1,701,031)	(1,613,854)

LIBRARY
APPROPRIATIONS MINUS EXPENDITURES

<u>Institution(upper-level)</u>	<u>1978</u>
ETT	419,336
TE	(6,386)
UTD	5,357
UTPB	(976)
UHCL	(92,678)
UHV	(409,179)
CC	16,120
LS	<u>26,124</u>
Total	(42,282)

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LIBRARY APPROPRIATIONS AS A PERCENTAGE
OF FACULTY SALARY APPROPRIATIONS, 1978

<u>Institution</u>	<u>Percent</u>	<u>Institution</u>	<u>Percent</u>
UT	11.2	UHV	30.5(minimum)
UTAR	10.2	LAM	10.8
UTEP	11.3	MTD	14.1(minimum)
UTSA	11.3	NTSU	10.8
UTPB	24.6(base plus)	PAN	11.5
A&M	9.8	SFA	11.4
PV	11.6	TS	12.6
TAR	18.7(base plus)	TECH	11.5
A&I	11.1	TWU	8.5
LS	39.6(minimum)	UT	10.7
CC	23.2	ASU	12.4(minimum)
ET	11.3	SH	11.7
UH	11.6	SWT	11.4
UHCL	15.0(minimum)	SR	23.0(minimum)
UHD	18.6(minimum)		

ORGANIZED RESEARCH

The support given Organized Research declined greatly in the 1978-1979 biennium. There are numerous reasons for the lack of legislative interest in this area. "Golden Fleece Awards" have been highly publicized and, regardless of their merit, have caused many people to question all research projects. Some researchers have given their projects inane titles and have helped arouse suspicion, and it is obviously true that many research projects have no immediate cash value.

Research, however, is essential to the continued development of our civilization and there is no way to predict the outcome of a particular project. Many members of university faculties wish to devote a part of their time to research and it is essential that they be able to do so. It not only keeps them alert and productive but adds each year to the store of knowledge. Research is the foundation for changes in society ranging from culture to technology and must be encouraged.

There is no particular pattern where other states are concerned. Some provide less money than Texas for research, some provide more and a few provide a great deal more.

The Texas formula for Organized Research gives weight to numerous factors which deserve consideration but it is unduly complicated.

The formula is:

Institutional complexity factor times Faculty Salaries for each year of the biennium plus 5 percent of Sponsored Research funds expended during the base year times 70 percent equals dollar requests for Organized Research.

NOTES: 1. The Institutional Complexity (IC) Factor shall be computed as follows:

$$IC = \frac{.015U + (.50M_1 + .10M_2 + .25M_3) + (6D_1 + 1D_2 + 3D_3)}{U + M + D}$$

where:

U = Undergraduate FTSE

M = Masters FTSE

M_1 = Masters FTSE in Science and Engineering

M_2 = Masters FTSE in Teacher Education

M_3 = Masters FTSE in all other programs

D = Doctoral FTSE

D_1 = Doctoral FTSE in Science and Engineering

D_2 = Doctoral FTSE in Teacher Education

D_3 = Doctoral FTSE in all other programs

2. Determine full-time student equivalents at all levels by dividing the Base Period semester credit hours (including those earned in Special Professional Programs) by 30.
3. In computing the dollar request for Texas A & M University, full-time student equivalents and Faculty Salaries in engineering, agriculture and veterinary medicine shall be excluded.

Proposal:

It seems reasonable to assume that all universities should have some money for research and that those which actively seek research funds and engage in much sponsored research deserve a great deal more. These criteria can be met by a very simple formula. The proposed formula is:

Organized Research recommendation equals one percent of Faculty Salaries plus 20 percent of sponsored research, or $.01 (\text{faculty salaries}) + .20 (\text{sponsored research}) = \text{request for Organized Research}$.

This formula will provide some money for each institution but will

reward those which actively stress research. It will provide substantially more money than currently appropriated for the research-oriented universities.

PHYSICAL PLANT GENERAL SERVICES

With the exception of the formula for Physical Plant General Services, those dealing with plant funds are the most satisfactory formulas in the Texas system. In addition to the general services area formulas are used for Building Maintenance, Custodial Services and Grounds Care and a formula is needed for Campus Security.

The Texas formulas in these areas seem far more responsive to actual needs than those used in a number of states. Many states lump all of these areas into one formula driven either by a percentage of instructional cost or by a dollar amount per square foot. For example, Louisiana, New Mexico and West Virginia use a percentage of instructional cost or of instructional cost combined with other elements. Alabama, Arkansas, Georgia, Kentucky, Maryland and other states use a dollar amount per square foot, but the rates vary greatly. The Alabama formula recommends \$1.69 per square foot of educational and general space. The rate is \$1.89 per square foot in Arkansas, \$2.21 per square foot in Georgia, \$1.16 in Tennessee, and \$2.49 in Maryland. The Georgia figure includes utilities and the Maryland figure excludes campus security.

The Texas formula for Physical Plant General Services is:

For each year of the biennium:

$$SW ([FTSE + (2 \times FTEE)] \times 3.90) + (RCB \times .0028)$$

Definitions of terms used in the formula:

1. SW is the average hourly earnings for services (adjusted) as shown in the Survey of Current Business published by the Bureau of Economic Analysis of the U. S. Department of Commerce.
2. FTSE is the full-time student equivalent obtained by dividing the base

period semester credit hours by 30.

3. FTEE is the full-time equivalent employees eligible for Teacher Retirement.

4. RCB is the replacement cost of buildings as calculated in the formula for Building Maintenance.

Building replacement cost shall be determined by applying the factors for the specific classes of construction, as shown on Markel's Handy Appraisal Chart, to the original construction costs of each education, general and service building.

Note:

Minimum of \$106,000 per year.

Proposal:

Since no one knows exactly how much money is needed for Physical Plant General Services, the chief argument for the existing formula (which is quite new) is that it provides funds which the institutions find acceptable. The same end can be served by a formula which would probably relate more directly to plant needs. The proposed formula is:

.20 (Building Maintenance + Custodial Services + Grounds Care + Campus Security). The existing minimum rate should be maintained.

The proposed formula would vary directly with modifications of plant formulas and would produce amounts closely related to the amounts produced by the existing formula. It is, obviously, contrived but no more so than a formula which has as one of its elements ($RCB \times .0028$).

The table on page 93 shows the relationship between the appropriations for Physical Plant General Services and the remaining plant formulas. The

percentage for Sul Ross State University is far removed from the 20 percent proposal, but the Sul Ross appropriation is not in keeping with the formula. Southwest Texas State University would also be penalized by a change in the formula but the loss would be largely offset by a proposed formula for Campus Security. The University of Texas of the Permian Basin will receive an increased appropriation. This is due to the unusually large amount the institution receives for Grounds Care.

PLANT FUNDS - 1978

	<u>General Services</u>	<u>Other</u>	<u>Percent</u>
UT Arlington	544,793	2,357,892	23.1
UT Austin	2,241,894	11,629,219	19.3
UT Dallas	208,333	1,196,535	17.4
UT El Paso	473,420	2,109,815	22.4
UT Permian Basin	106,000	759,811	13.9
UT San Antonio	208,333	1,054,967	19.7
Texas A&M University	1,349,263	6,836,914	19.7
Prairie View A&M University	204,854	1,131,257	18.1
Tarleton State University	122,962	674,690	18.2
Corpus Christi S. University	106,000	523,836	20.2
Texas A&I University	242,190	1,236,901	19.6
East Texas State University	320,031	1,518,680	21.0
East Texas State U. (Texarkana)	106,000	98,572	107.5
University of Houston	999,153	5,136,533	19.4
UH at Clear Lake City	146,215	959,948	15.2
UH Downtown College	106,000	510,324	20.77
Lamar University	405,045	1,837,243	22.0
Midwestern S. University	165,511	945,468	17.5
North Texas S. University	564,887	2,798,653	20.2
Pan American University	240,249	1,004,406	23.9
Stephen F. Austin S. University	343,506	1,495,859	23.0
Texas Southern University	301,845	1,246,341	24.2
Texas Tech University	858,693	4,019,905	21.4
Texas Woman's University	304,248	1,706,394	18.4
Texas Eastern University	106,000	528,214	20.1
West Texas State University	235,373	1,368,734	17.2
Angelo State University	149,078	795,901	18.7
Sam Houston State University	353,452	1,513,864	23.3
Southwest Texas S. University	398,627	1,531,409	26.0
Sul Ross State University	207,258	563,272	36.8

(Minimum appropriation for General Services is \$106,000. Laredo and University of Houston at Victoria do not receive plant funds.)

BUILDING MAINTENANCE

The appropriations for Building Maintenance have been consistently overspent by some institutions and consistently underspent by others. Universities having difficulty in other formula areas have assumed that the buildings would stand for another year and have used the money in places deemed more critical. The total appropriation for Building Maintenance in 1978 was \$23,906,293 and \$1,890,269 was transferred to other areas or possibly carried forward for large maintenance projects in the next year.

The formula for Building Maintenance is:

Maintenance cost factors times building replacement costs equals dollar request for Building Maintenance.

A. Maintenance cost factors are designated as follows (factors expressed as percentage figures):

	<u>Wood-Frame Construction</u>	<u>Masonry-Wood Construction</u>	<u>Masonry-Concrete Construction</u>
Air Conditioned	1.90	1.45	1.25
Non-Air Conditioned	1.75	1.30	1.10

B. Building replacement costs shall be determined by applying the factors for the specific classes of construction, as shown on Markel's Handy Appraisal Chart, to the original construction costs of each educational, general and service building.

Proposal:

No change is proposed. The formula has provided adequate funds and is based on replacement costs which will be influenced by inflation. Adjustments, when needed, can be achieved by varying the maintenance cost factors.

BUILDING MAINTENANCE
APPROPRIATIONS MINUS EXPENDITURES

Institution(4-year)	<u>1977</u>	<u>1978</u>
ASU	\$ 15,549	\$ 4,080
ET	28,640	57,924
LAM	171,808	84,549
MID	50,877	87,003
NTSU	315,660	418,444
PAN	120,025	135,500
SH	(82,624)	(114,550)
SWT	82,432	94,646
SFA	(61,061)	(16,623)
SR	(1,376)	4,735
PV	40,295	(10,000)
TAR	14,302	16,792
A&M	(29,729)	(144,259)
TS	76,206	49,722
TECH	233,838	13,887
TWU	(43,044)	(148,372)
UTAR	205,080	177,122
UT	791,577	38,916
UTEP	203,688	181,911
UTSA	NA	81,116
UH	272,016	417,954
UHD	NA	2,918
A&I	44,842	59,197
WT	<u>149,721</u>	<u>176,546</u>
Total	2,598,722	1,669,158

BUILDING MAINTENANCE
APPROPRIATIONS MINUS EXPENDITURES

<u>Institution(upper-level)</u>	<u>1978</u>
ETT	\$10,249
TE	44,076
UTD	44,238
UTPB	10,311
UHCL	73,613
UHV	NA
CC	38,624
LS	NA
Total	221,111

CUSTODIAL SERVICES

For many years the Custodial Services formula has been simply a rate per square foot times the gross area of educational, general and service buildings. There has been a substantial difference of opinion between the Coordinating Board and the Legislature as to the proper amount per square foot. In 1978 the Coordinating Board recommended \$.5358 per square foot and the legislature appropriated \$.4347. Expenditures in the formula area are greatly influenced by minimum wage requirements and by the labor market in which the institution seeks its employees. The appropriations for Custodial Services were overspent slightly in 1977 and underspent slightly in 1978. For expenditure information, see the table on pages 100 and 101. Institutions located in metropolitan areas find it difficult to live within the appropriated amounts and are restricted to minimal standards.

Institutional requests to the 1979 legislature for 1980 and 1981 appropriations were based upon a newly adopted formula which in fact followed standards which the Formula Advisory Committee had been using for a number of years to arrive at its recommendations.

The formula is:

$$\text{SW} \times \frac{\text{GSF}}{22,400} \times 2,080 \times 1.2$$

Definitions of terms used in the formula:

SW is the average hourly earnings for services (adjusted) for January, 1978, as shown in the Survey of Current Business published by the Bureau of Economic Analysis of the U. S. Department of Commerce.

GSF is gross square feet (outside dimensions) of educational, general, and service buildings.

The formula can be faulted on at least two counts. Average hourly earnings for services (SW in the formula) is of doubtful validity in this formula area and the area assigned to each worker is excessive. In all probability, the excessive area is used to offset the excessive wage scale.

The formula produced a rate of \$.5538 per square foot for fiscal 1980. This would have represented an increase of approximately 25 percent over the rate for 1978, and the recommendation was not accepted by the Legislative Budget Board which proposed an increase of approximately 5.1 percent. The appropriations bill for 1980 has not been passed at the time this is written but it is probable that the Legislature will be guided by the recommendation of the Legislative Budget Board.

Proposal:

Since cost per square foot is a definite amount determined by experience, there seems little need for a formula more involved than a means of increasing the amount each year by a percentage sufficient to cover increased wages and costs of equipment and supplies. There is much to recommend the formula used prior to the development of the new formula. It read simply:

Total square feet x rate per square foot = request

This formula leaves the Formula Study Committee with the responsibility of determining the rate per square foot and leaves the committee free to move in any one of several ways. A decision to improve the standards of Custodial Services would result in a recommendation for a higher percentage increase than needed to maintain the existing standard.

The formula used for the 1980 appropriations request has merit in spite

of its obvious flaws. It can be brought closer to reality by limiting it as follows:

$$.85 \left(SW \times \frac{GSF}{22,400} \times 2,080 \times 1.2 \right)$$

The standards of Custodial Service could then be regulated by varying the percentage. This is, incidently, about what the Legislative Budget Board did to the formula.

The Custodial Services standards can be rated no higher than acceptable and should be improved when state finances permit.

CUSTODIAL SERVICES
APPROPRIATIONS MINUS EXPENDITURES

<u>Institution(4-year)</u>	<u>1977</u>	<u>1978</u>
ASU	3,173	(3,952)
ET	(49,870)	13,221
LAM	6,622	(54,898)
MID	19,287	21,854
NTSU	(129,201)	66,529
PAN	77,111	50,270
SH	(24,284)	5,681
SWT	4,100	28,289
SFA	(61,295)	(55,775)
SR	2,898	12,076
PV	(2,757)	0
TAR	31,122	74,753
A&M	74,848	103,014
TS	47,586	(44,722)
TECH	303,513	328,490
TWU	23,871	88,265
UTAR	(97,986)	(104,385)
UT	(725,748)	(498,594)
UTEP	(63,881)	4,691
UTSA	NA	6,270
UH	(182,660)	(135,570)
UHD	NA	(68,303)
A&I	83,550	96,329
WT	<u>137,386</u>	<u>204,560</u>
TOTAL	(522,615)	138,093

CUSTODIAL SERVICES
APPROPRIATIONS MINUS EXPENDITURES

<u>Institution(upper-level)</u>	<u>1978</u>
ETT	\$19,929
TE	268
UTD	(18,784)
UTPB	90,186
UHCL	61,844
UHV	NA
CC	44,168
LS	NA
Total	197,611

GROUNDS MAINTENANCE

The formula for Grounds Maintenance has been used only a few years but has proved to be generally satisfactory. The formula as recommended by the Coordinating Board has never been fully funded, but most institutions have found it adequate. A few overspent the appropriated amount in 1978. For information concerning expenditures in this area, see the table on pages 104 and 105.

The formula is:

$$SW (.70P + 122L + .50E)$$

Definitions of terms used in the formula:

1. SW is the average hourly earnings for services as shown in the Survey of Current Business published by the Bureau of Economic Analysis of the U. S. Department of Commerce.
2. P is the total linear feet of perimeter of all campus buildings including academic, office, service, administration, dormitories, etc.
3. L is the total number of acres of lawns and regularly maintained areas (malls, flower beds, parking lots, sidewalks, streets, etc.). Exclude all buildings, street areas, and areas covered under Organized Activities (i.e. college farms).
4. E is the fall semester head-count enrollment.

The chief weakness of the formula is the use of the SW (average hourly earnings for services) factor as an appropriate measure of labor costs in this area. The legislature has resolved this problem by granting only a portion of the formula produced amount. The Legislative Budget Board recommended for 1980 an increase of 5.1 percent over the 1979 appropriation. This had the effect of modifying the formula to read:

$$.92 [SW(.70P + 122L + .50E)]$$

Proposal:

The formula has many good points and no proposal is made for modification. The legislative modifications seem reasonable at this time and experience may bring the institutions and the Legislature to agreement on the actual value of SW. It is recommended that the Legislature be urged to remove the "non-transferable" restriction from this item in the appropriations bill and that the definition of L be amended in such a way as to exclude land being held for use in the future but having no specific use at present.

GROUNDS MAINTENANCE
APPROPRIATIONS MINUS EXPENDITURES

<u>Institution(4-year)</u>	<u>1977</u>	<u>1978</u>
ASU	(17,756)	(5,689)
ET	(27,665)	33,302
LAM	26,558	(1,008)
MID	8,151	(16,258)
NTSU	(24,581)	22,798
PAN	(801)	35,447
SH	(31,975)	9,239
SWT	14,656	35,407
SFA	59,873	52,548
SR	(1,941)	11,728
PV	29,011	0
TAR	12,057	(14,289)
A&M	(150,036)	95,424
TS	(15,771)	0
TECH	12,722	93,158
TWU	38,290	84,846
UTAR	(41,937)	6,815
UT	(46,195)	132,951
UTEP	(39,734)	(48,773)
UTSA	NA	10,516
UH	(122,076)	33,044
UHD	NA	930
A&I	(6,214)	19,531
WT	(36,987)	(2,887)
Total	(362,351)	588,780

GROUNDS MAINTENANCE
 APPROPRIATIONS MINUS EXPENDITURES

<u>Institution(upper-level)</u>	<u>1978</u>
ETT	\$(12,827)
TE	58,563
UTD	(2,036)
UTPB	157,021
UHCL	63,680
UHV	NA
CC	21,924
LS	NA
Total	<u>286,325</u>

ADDITIONAL AREAS FOR FORMULA FUNDING

In addition to the areas in which formulas now exist, there are several other areas in which formulas might assist in the equitable distribution of funds. Formulas are being proposed in two new areas but it has not been possible to develop formulas for other suggested areas. For example, it was proposed that a formula be developed for repairs and rehabilitation of buildings but careful study failed to produce an acceptable procedure. Agreement might well be reached on acceptable guidelines, but if there is an acceptable formula it has yet to be presented.

Campus Security

A number of institutions have pointed to the need for the equitable distribution of funds for campus security. A survey of Texas institutions revealed that appropriations for campus security varied from less than \$10 to more than \$50 per student. Many factors are involved, including the location of the institution and the value of the plant, but the appropriation is probably influenced more by the priority given to this item and the effectiveness of the presentation to legislative committees. Little help can be gained from the experiences of other states because most of them group it with other items which are financed by a percentage of instructional cost or by an appropriation based on the number of square feet contained in educational and general buildings.

Two states were studied which finance campus security as a specific item but the appropriations were hardly similar. Kansas uses a formula which reads:

Dollar rate (head-count students + FTE faculty and staff)

There was some variation from institution to institution, apparently based

on tradition, but the most common rate was \$22.

Maryland also uses a formula for campus security and it too is based in part on historical costs. For 1979 the Maryland formula can be briefly stated as:

$$(\$55.62 \times \text{FTES}) + \$51,975$$

This formula results in a decreasing cost per student as the size of the institution increases.

Proposed formulas have been considered by Coordinating Board Committees but no agreement has ever been reached. The chief problem has been that any proposed formula based on average costs will enrich some institutions while greatly reducing the appropriations for others. This is inevitable when some institutions receive five times as much per student as others. The first experience with a formula will doubtless shock both the Legislature and the institutions which have been receiving the larger appropriations but a formula in this expense item is inevitable and a start will have to be made. Any formula adopted will have to include a minimum in order to provide for the very small schools.

The following formula is proposed as a beginning formula for Campus Security:

$$\$20 (\text{FTES} + \text{FTEE}) \quad \text{Minimum } \$100,000$$

It is believed that both full-time equivalent students and full-time equivalent employees eligible for Teacher Retirement should be included and both terms will be found in one or more additional formulas. The minimum is needed because the amount generated by the formula for the very small institutions would be practically meaningless. The \$20 rate should be looked upon as an absolute minimum and would need to be adjusted on the basis of experience.

Community Service and Continuing Education

The appropriations bills for higher education in many states carry an item, in some instances quite a large item, for Community Service and Continuing Education. In most cases, continuing education can be described as adult education. The purpose of such an appropriation is to make the expertise, and possibly the facilities, of institutions of higher education available to government officials and citizens who are not enrolled in the institutions. For purposes of this study, the term continuing (or adult) education is restricted to courses and programs which are not offered for college credit.

In a world which changes as rapidly as this one, there is a constant demand for continuing education to meet the needs and interests of millions of individuals. The universities and colleges of the state must respond to this demand. They have made some response by offering self-supporting, non-credit courses both on and off campus. Many, possibly most, authorities agree that the individuals taking the courses should pay the instructional costs but there is general consensus among educators that the state should pay administrative and promotional costs.

With the exception of appropriations made to the Agricultural Extension Service and similar agencies, Texas has done little to promote community service and continuing education. One problem has been the inability of the colleges and universities to agree among themselves on an acceptable method of funding.

The following is offered as a beginning formula for state funding to assist in an important and rapidly growing segment of education:

For each year of the biennium
.20 (base year community service and continuing
education income)

Special Requests

Numerous suggestions and requests have been made during the course of this study and all have received careful consideration. Some resulted from the failure of faculty members and others to understand that a formula represents a compromise and that some courses in a program area will be overfunded while others are underfunded. If the formula serves its purpose, there will be money to pay for all courses in the program area.

One request for an additional formula was presented by representatives of the Texas Cooperative Education Association. They are seeking funding for courses in cooperative education. The program is being funded for institutions in a number of states and merits consideration in Texas. No formula is proposed because the amount needed will depend upon the number of credit hours the institutions and the Coordinating Board are willing to approve for the program and the amount of supervision required. Until specific decisions can be reached on the granting of credit and the amount of credit, there is nothing on which to base a formula. This statement is offered as evidence that the proposal is looked upon as being worthy of careful consideration.

SUMMARY

An intensive study of the Texas formula system leads, perhaps inevitably, to proposals for modifying the formulas and also to suggestions which will provide better information for future studies. General suggestions for change as well as proposed formulas will be stated briefly in this summary.

The Texas Formula System (pp.1-10)

No formula is discussed in this chapter but it is suggested that future studies would be greatly assisted if the Coordinating Board gave careful consideration to the following suggestions:

Institutions request appropriation for Faculty Salaries by program area but report expenditures on the basis of institutional organization. It would help greatly if expenditures were reported by program area.

Comparisons with teaching costs in other states would be greatly simplified by the adoption of HEGIS Code classifications for courses in Texas institutions. The advantages would probably outweigh the problems.

The adoption of separate formulas for lower-level and upper-level undergraduate courses. This step is probably inevitable with upper-level universities operating in the state, and cost information is available from the management information system.

General Administration and Student Services and General Institutional Expense (pp. 11-21)

The basic proposal is that the two formula areas be combined into one using the rates shown on page 16. If this proposal is not adopted, it is recommended that the formula for General Administration and Student Services be modified as proposed on page 13. It would then be necessary to modify the formula for General Institutional Expense to a rate of \$1.09 per semester credit hour as shown on page 14.

Faculty Salaries (pp. 22-62)

The changes proposed for Faculty Salaries attempt to bring student/faculty ratios closer to the actual ratios and to use a known average salary in place of numerous estimated salaries. (For the proposals see pages 58 - 61). It is doubtful that the very small upper-level institutions can operate with the proposed formulas and it would not be unreasonable to increase faculty salary amounts for institutions with fewer than 1500 FTE students by 15 percent.

It is also proposed that consideration be given to dropping veterinary medicine and optometry from the formula system since each program is offered in only one institution and there is no question of equitable distribution of funds.

Departmental Operating Expense (pp. 63-74)

The simplest, and best, method of funding Departmental Operating Cost would be the use of a percentage of Faculty Salaries, and the suggested

figure is 23 percent. This would cause problems for one or two institutions. If the problems cannot be solved, the second choice is the classification of program areas and the use of varying percentages (see pages 72 and 73). If it is decided that Departmental Operating Expense must continue to be funded as a dollar amount for each program area, then accounting procedures are needed to provide information on costs by program area and by level. If it is decided to continue use of the present system, a stop-gap measure would be to increase the formula rates for liberal arts by 50 percent and make no other changes until better information is available.

Instructional Administration (pp. 75-79)

It is proposed that the existing formula be abandoned in favor of a new formula which reads:

Institutions with more than 20,000 FTE students 6 percent of Faculty Salaries.

Institutions with fewer than 20,000 FTE students 4.5 percent of Faculty Salaries plus \$100,000 for each Special Professional Program.

Library (pp. 80-86)

The proposal is to substitute a percentage of Faculty Salaries for the existing formula. A rate of 12 percent of Faculty Salaries would give libraries support comparable to that now received. A rate of 15 percent of Faculty Salaries would enable the libraries to recoup the losses of the current biennium and to begin the acquisition of audio-visual materials.

Organized Research (pp. 87-89)

It is proposed that the existing formula be replaced by one which reads:

$.01 \text{ (faculty salaries)} + .20 \text{ (sponsored research)} = \text{request for Organized Research.}$

Physical Plant General Services (pp. 90-93)

It would be well to replace the existing formula with one which provides simply:

$.20 \text{ (building maintenance + custodial services + grounds maintenance + campus security)} = \text{request for Physical Plant General Services}$

Building Maintenance (pp. 94-96)

No change proposed.

Custodial Services (pp. 97-101)

The current formula is acceptable but must be modified each biennium to reach agreement on its actual value. The Legislative Budget Board interpretation of the formula had the effect of granting about 85 percent of the proposal.

It is difficult to see that the new formula is any improvement over the one replaced which reads simply:

$\text{Total square feet} \times \text{rate per square foot} = \text{request for Custodial Services.}$

Grounds Maintenance (pp 102-105)

This formula is generally satisfactory but agreement will have to be reached each year as to the hourly earnings to be used. The Legislature should be urged to drop the "non-transferable" restriction

from this item in the appropriations bill and a tighter definition is needed for the term L (total number of acres of lawns and regularly maintained areas).

Additional Areas For Formula Funding (pp. 106-109)

Formulas are proposed for two areas which have not been funded by formulas. They are:

Campus Security with a proposed formula of

$\$20 (\text{FTES} + \text{FTEE}) = \text{request for Campus Security.}$

Minimum of \$100,000.

FTEE = FTE employees eligible for Teacher Retirement.

Community Service and Continuing Education with a proposed formula of

$.20 (\text{base year community service and continuing education income}) = \text{request.}$

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Information on formula funding was received from the following states:

Alabama	Indiana	Michigan	Ohio	Tennessee
Arkansas	Kansas	Mississippi	Oklahoma	Utah
Colorado	Kentucky	Missouri	Oregon	Virginia
Georgia	Louisiana	New Mexico	Pennsylvania	Washington
Illinois	Maryland	New York	South Carolina	West Virginia

Materials, both published and unpublished, were provided by:

- American Association of State Colleges and Universities
- Arizona Board of Regents
- Southern Association of Colleges and Schools
- Texas Association of College and University Business Officers
- Texas Association of College Teachers
- Texas Association of Music Schools
- Texas Conference, American Association of University Professors
- Texas Cooperative Education Association
- Texas Council of Collegiate Education for Business
- Texas Council of Presidents
- Texas Council of State University Librarians
- Texas Journalism Education Association
- Texas Society of Professional Engineers
- University of Wyoming

Miscellaneous data and materials, both published and unpublished, were provided by the Coordinating Board, Texas College and University System, the state senior colleges and universities, and other state agencies. Information which was used most extensively in this report can generally be found in Statistical Supplements to the Annual Reports for fiscal years 1973 through 1977; "Requests for Legislative Appropriations" of all institutions for the fiscal years 1974 through 1981; Legislative Budget Estimates by the Legislative Budget Board, 1980 and 1981; appropriations bills for fiscal years 1971 through 1979; audited financial statements for fiscal years 1972 through 1977; and Formula Study Committee reports 1972 through 1978. Unpublished material was provided by the Coordinating Board staff in the Educational Data Center, Data Processing Section, Financial Planning Division and other areas.